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Editor and Editorial Director
PAUL FINCH 020 7728 4591

Managing Editor
CATHERINE SLESSOR 020 7728 4592
Assistant Editor
ROB GREGORY 020 7728 4587

Acting Art Editor
DANI HART 020 7728 4588

Production Editor
JULIA DAWSON 020 7728 4590

Editorial Co-ordinator
LYNNE JACKSON 020 7728 4589

ADVERTISING

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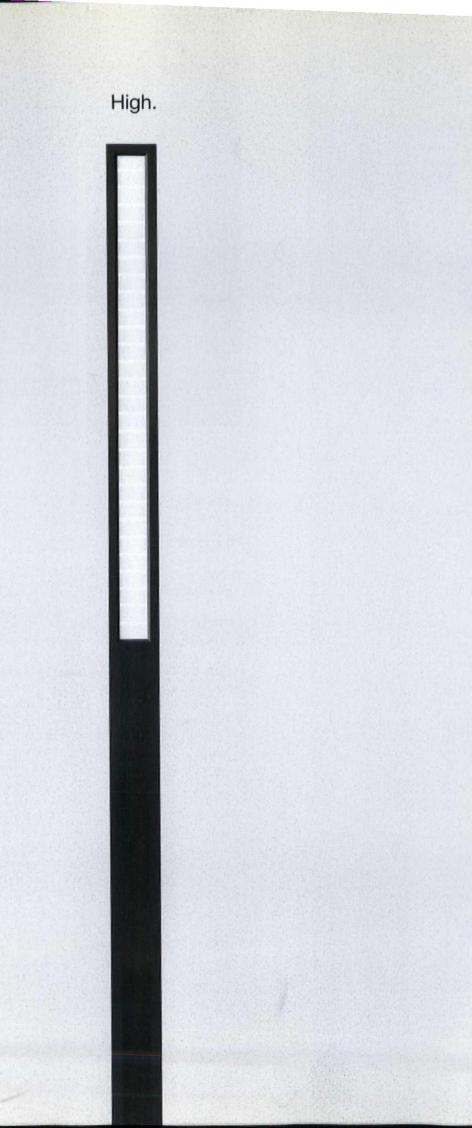
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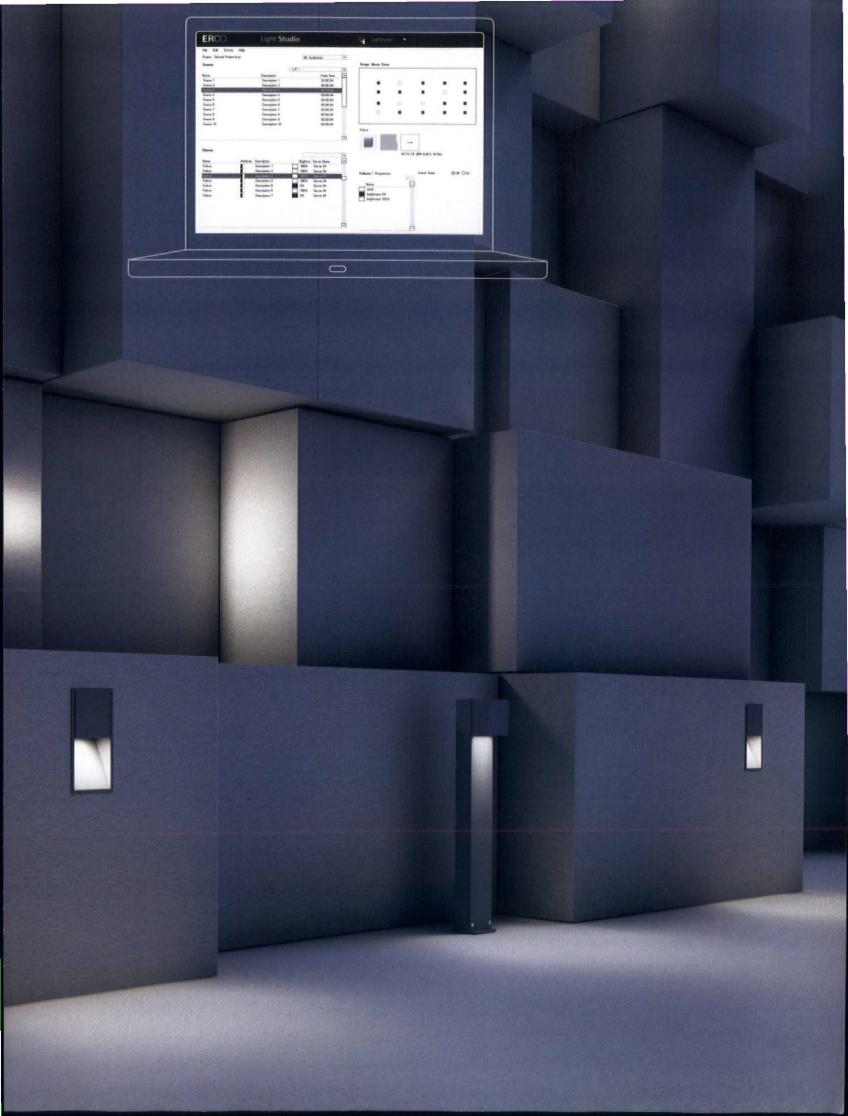
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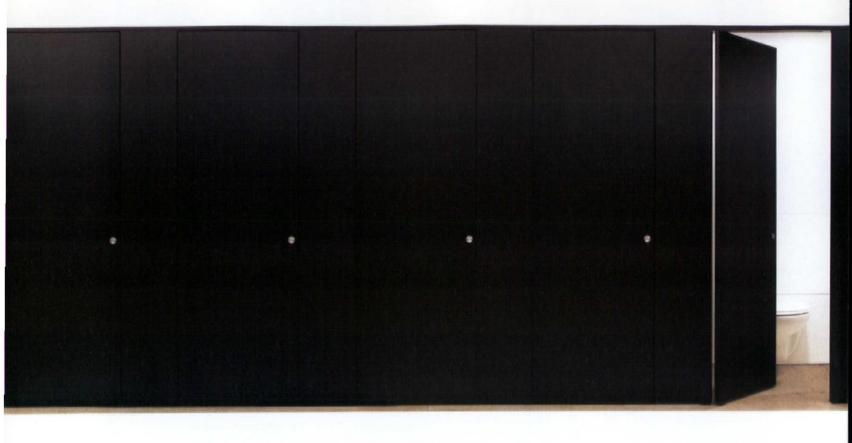
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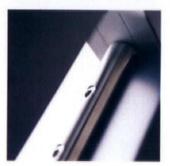
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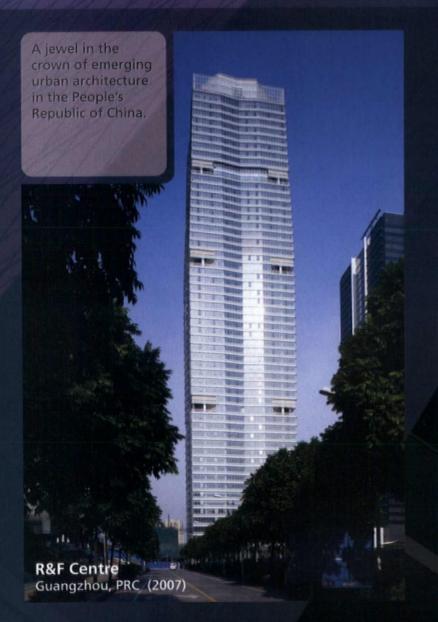
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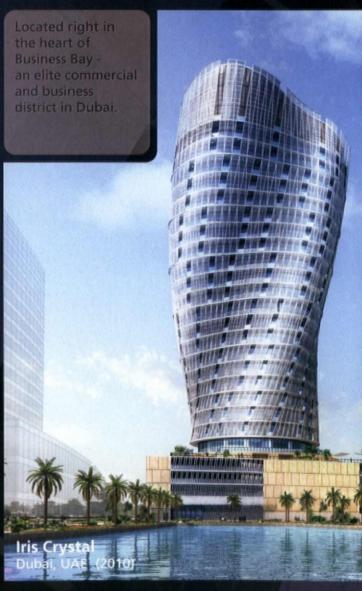
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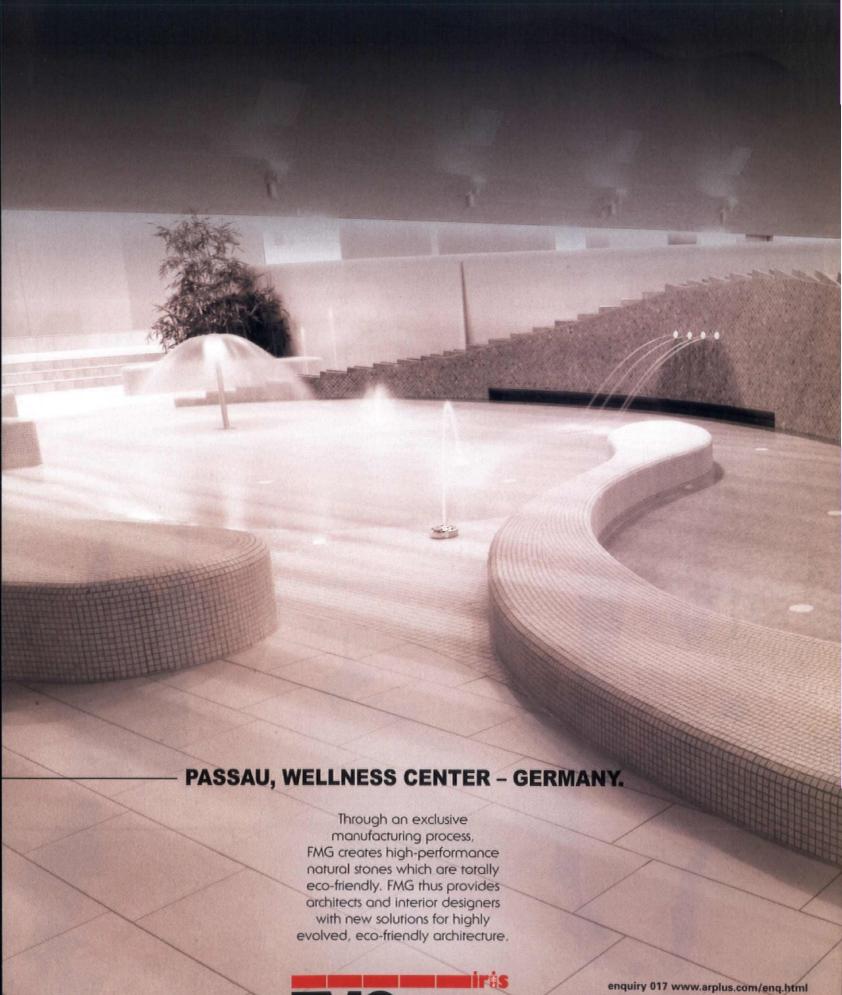




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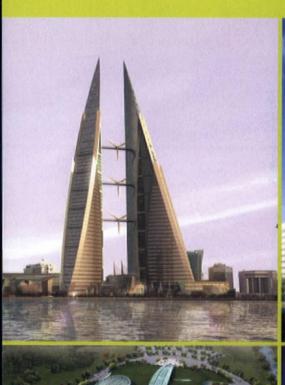


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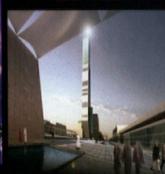


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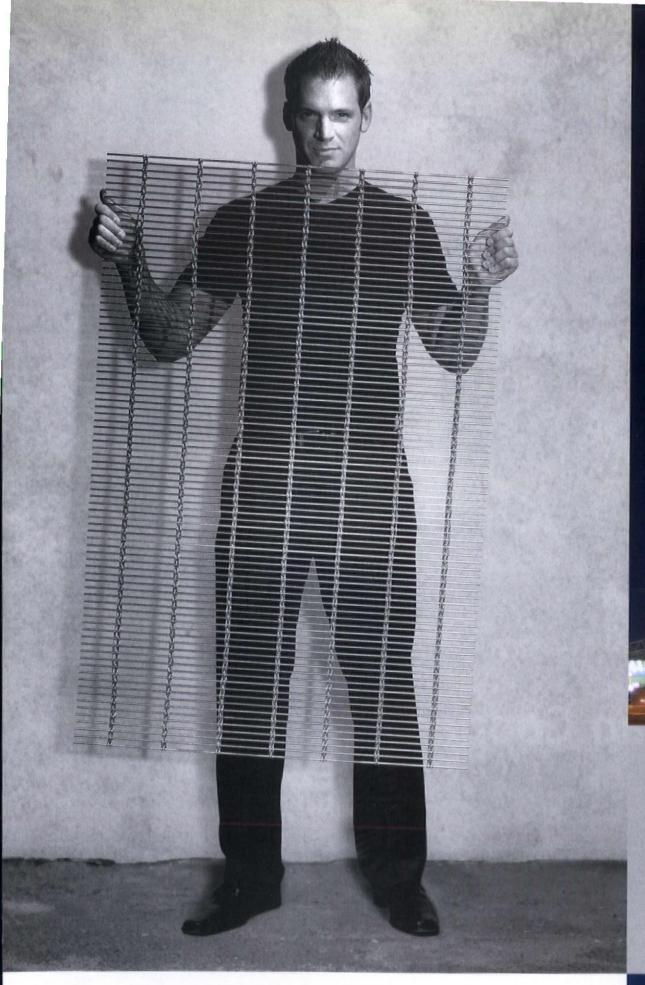


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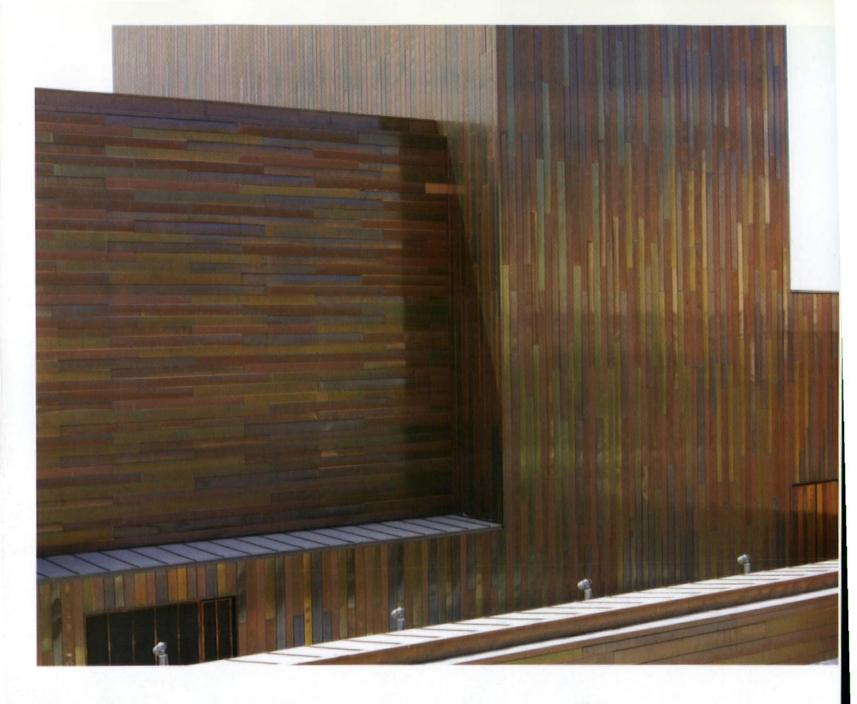
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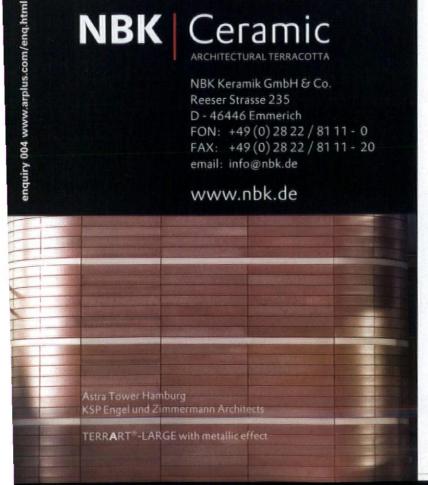
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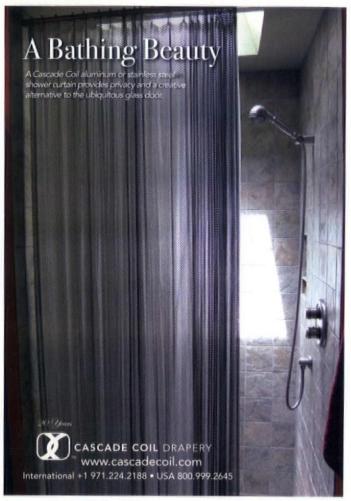


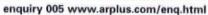
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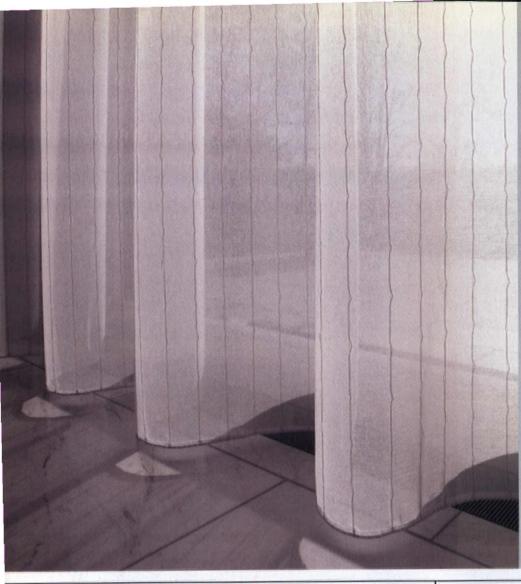
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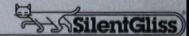






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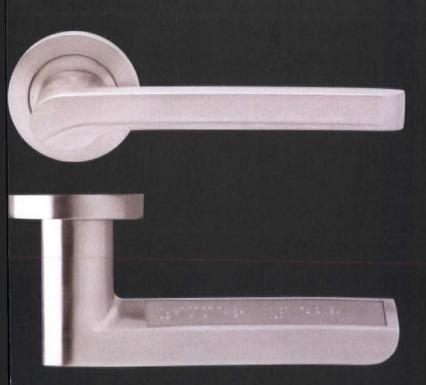


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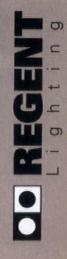
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KINDLY TAKE THE STAGE

With the Venice Biennale fresh in the mind, and with the World Architecture Festival about to take place in Barcelona, the question of architecture's place in the world has come under sharp scrutiny. This comes at a time when two pressing issues confront architecture as collective problems: first, the requirement for housing on an unprecedented scale; and second, the implications for large proportions of the planet of increasing energy consumption and carbon emissions, much of it resulting from buildings (particularly the existing). This is not to say that the conventional concerns of architecture in respect of aesthetics and planning are irrelevant, but it is to say that there is a breadth of problem which needs to be addressed at a different scale. That is what the 2006 Venice Biennale was all about and what made it significant. The fact that it is unlikely to be repeated in the foreseeable future does not take away from the importance of its message.

It is interesting news that President Sarkozy has asked the 2006 Biennale curator Richard Burdett (as part of a team under Richard Rogers), to re-examine the way Paris is being planned. This is one example of politicians understanding the need for significant strategic planning direction if cities in the 21st century are to respond to the problems of the 20th, in the same way that the 20th had to respond to the 19th. In the case of Paris, the suggestion is that high-density suburbs be created as an alternative to the stifled and often monocultural occupation of the centre. Le Corbusier would probably approve, or at least approve the attention being given to a problem he tried to address nearly a hundred years ago – especially as the Rogers proposition is based on high-density housing.

Generally speaking, architects find it very difficult to behave collectively because, as individual professionals and artists, they have to follow their clients on the one hand, and their muse on the other. It is the collective will of client and government which makes the difference, which demands high standards of energy efficiency, which puts in place infrastructure for new housing, which creates the regulatory and procurement regimes under which the profession operates. But this collective will is in part established by the aspirations of those who create the built environment, and by technical advances which hold out the prospect, to coin a phrase, of combining the possible with the responsible, the subject of our theme this month in relation to tall buildings. Ideas change the world, and ideas about architecture and cities, achieved or not, play their part in creating our future environment.

PAUL FINCH

view







Gehry's 'Ungapatchket'
– an evolving model of a
Moscow hotel facade.
2
One of Junya Ishigami's
delicate greenhouses
built around the
Japanese pavilion.
3

Sverre Fehn show in the Nordic pavilion. 4 Architecture and

Architecture and ecology hang in the balance in the German pavilion.

'Singletown' examines the 'predicament' of the single life by Dutch designers Droog with KesselsKramer.

'Gathering Place' by Gareth Hoskins outside Santa Lucia station, as the Scots take Venice.

The original drawings from the 1978 Roma Interrotta show, reassembled 30 years on in the Arsenale.

Model cases on moveable arms in the French pavilion. All photographs: Paul Raftery/VIEW.

VENEZIA INTERROTTA

The froth and flotsam of the Biennale permeate Venice.

Frank Gehry has a word for it. Ungapatchket, from the perpetually expressive Yiddish meaning 'messed up, slapped together without form, excessively and unaesthetically decorated'. Gehry employed it to describe his contribution to the Biennale, a 1:25 model of a facade for a new Moscow hotel he's working on, constructed from an armature of timber with clay made on the premises in real time, by real artisans. This stunt was inspired by old photographs of Frédéric Bartholdi's studio during the construction of plaster and wood moulds for the Statue of Liberty and will be ongoing during the course of the Biennale. But, of course, ungapatchket is also a deliciously appropriate epithet for the Biennale itself, a diverse, perplexing and at times frankly incomprehensible architectural brocade that spreads itself with hedonistic abandon across a bemused Venice. If last time around director Ricky Burdett assumed the role of geography master, with his epic assemblage and dissection of world cities, then this year Aaron Betsky was more your multimedia studies tutor with an energetic nod to the drama club. 'Out There – Architecture Beyond Buildings' was his chosen point of origin and cue for often feverish speculation about the role, meaning, and imaginative potential of architecture in a technologically sophisticated but increasingly dehumanised and disinhibited world.

A laudable aim, but one which also provided participants with a licence to go more off piste than usual. The Arsenale and the Italian Pavilion in particular were transformed into Dantean labyrinths of self-referential, scenographic perversions that had little to do with anything except curatorial chutzpah. In some ways, the die was cast with the opening salvo in the Arsenale, the self-styled 'Hall of Fragments', in which architecture was filtered through vicarious and voyeuristic medium of film, from Metropolis to Minority Report, a perfect, easy-on-the-eye triumph of image over reality. The great sheds of the Arsenale traditionally provide room for all sorts of overscaled, over-ambitious and over here conceits, and this year you could cherry pick from Coop Himmelb(l)au inflatables, Greg Lynn's recycled plastic toys, Barkow Leibinger's laser-cut tubes, Atelier Bow-Wow's cute 'Furnivehicles' (a cross between vehicles and furniture), Massimiliano Fuksas' acid green peep show and Nigel Coates' frankly libidinous 'Hypnerotosphere'. Fighting to be heard above this din were the original drawings from the 1978 Roma Interrotta project by Stirling, Graves, Rowe, Venturi, the Brothers Krier et al, lovingly reassembled like a reformed supergroup. Hand drawn ink and pencil on paper now seems wonderfully unplugged, a reminder that there was a simpler, saner world before the era of parametric modelling. These archaeological finds acted as spur for 'Uneternal City', as the baton of worrying what to do about Rome passed to a younger generation who now propose neural networks, valleys of desire and a balefully hovering Death Star.

Respite from the Arsenale's sensory overload came in the form of one of the Biennale's few palpable hits, a landscape installation in the grounds of the Church of the Virgins, a former Benedictine convent destroyed in the 1800s. Gustafson Porter's 'Towards Paradise Garden' is, astonishingly, the Biennale's first external landscape installation, and as such, long overdue. In a gentle reminder of the slow, sensual power of nature, time and the seasons, five different sorts of green spaces, from a vegetable plot to a bower for contemplation, were carved out of a thicket of brambles and ivy-encrusted tree stumps. Venice is full of secret gardens and this unexpected treat added to that continuum.











Anyone contemplating a visit to Yenice to see this year's Biennale, which closes on 23 November, can enjoy an extraordinary smörgåsbord of architectural thinking. A splendid way to view the event is to see it in conjunction with a visit to nearby Palladio buildings; Villa Foscari at Malcontenta has a bonus of two beautiful installations designed by Zaha Hadid and Patrik Schumacher, hymns to 'parametricism' (one of the sub-themes of this year's Biennale). In Vicenza, the Palladio Centre is host to a first-class exhibition on Palladio's life and work (until 6 January), with a significant number of drawings provided by the Royal Institute of British Architects; the exhibition moves to the Royal Academy in London in the New Year (the RA is co-organiser of the show).

Like Le Corbusier, the subject of an excellent afternoon discussion hosted by the RIBA, Palladio was heavily influenced by the past. But his architectural work also related strongly to changing political and economic circumstances; his shade lies long over European architecture because his experiences are in a sense those of every architect who has since grappled with history, changing circumstances and experimentation.

Aaron Betsky's injunction to think beyond architecture has drawn a spectrum of responses; in the Arsenale everyone is trying pretty hard, in some of the national pavilions less so. The US pavilion was nicely judged for example, but the British pavilion wastes the talents of the architects featured by avoiding any engagement with the Biennale theme in favour of a stiff lower lip gaze at a few nicely presented designs. At best the pavilion was semi-detached.

Robert White's Dark Side Club saw late-night debates on everything from parametricism to space exploration with more or less heated responses from sages including Jeff Kipnis and Peter Cook. The club's jokey award for best pavilion, announced by your correspondent, went to the Nivea pavilion (which dispenses its range of commercial lotions) on the grounds that it was the only one where 'form follows unction'. And one could not help noticing, with Zaha designing shoes as well as buildings these days, that the functional tradition still has, well, legs. PAUL FINCH

In the Giardini proper, the national pavilions were rallying calls for a familiar array of fetishes and follies. Sverre Fehn's calm, considered colonisation of his Nordic pavilion brought some much needed perspective to the general febrility and made a fitting tribute to a genuinely great architect. Both the US (under commissioner Bill Menking) and Denmark embraced grittier themes of social and ecological responsibility, while Junya Ishigami for Japan constructed a series of delicately ethereal greenhouses around the void of an empty pavilion. The UK, under critic and journalist Ellis Woodman, attempted to address the vexed issue of cramped, unimaginative and overpriced national housing provision with a clutch of thoughtful propositions from a younger generation, but the po-faced presentation did little to enliven a challenging theme. But it did at least have the only comprehensible working drawing in the Biennale (from Sergison Bates).

France showed more presentational brio with rooms full of perspex cabinets containing architectural models mounted on moveable arms so you could pull, wrangle and twist them, thus excitingly liberating the static model from the horizontal plane. Germany featured yet another meditation on global injustice and environmental destruction, animated this time by some fetching 1970s

patchwork chair covers. In the scrum of the Italian Pavilion real highlights were hard to discern, but Herzog & de Meuron and their Chinese artist collaborator Ai Wei Wei did some implausible things with bamboo, while Zaha Hadid and Madelon Vriesendorp each showed a series of their surprisingly subtle and dainty early drawings.

Beyond the Giardini is a shifting Kuiper Belt of nomadic countries with no permanent national pavilions, but Peter Cook, batting for charmingly historic but politically riven Cyprus, and Hugh Pearman, for robustly down-to-earth Scotland, showed that this was no impediment to fecundity or provocation. Scozia in Venezia was billeted at the unfashionable end of town, beside Santa Lucia station, where Gareth Hoskins had designed a kind of flakeboard version of the Spanish Steps, for sitting, viewing and pottering, over an exhibition bothy below.

And what of Venice itself – small, sinking, over polluted and over exposed, now more in peril than ever, with a population half of what it was 10 years ago? Its dilemma was perhaps most pithily epitomised in Diller Scofidio + Renfro's 'Chain City' installation in the Arsenale, which cast a jaundiced eye over the cosy familiarities of cultural tourism through the medium of filmed gondola rides in the real Venice and its

recreated stage set at the Venetian Hotel in Las Vegas. Here dirt, history, unpredictability and the wrong sort of people are carefully edited out and the water is a just-so shade of cerulean. But though the (real) Venetian gondolier talks winningly of tides, light and boatcraft, which is now the more 'authentic' experience? At the current rate of native population decline, by around 2046 there will be no more Venetians in Venice (if the Adriatic doesn't get there first), and its transformation from working city to tourist backdrop will be complete. The Death of Venice. Perhaps someone might even conjure a Biennale out of it. CATHERINE SLESSOR

PRAEMIUM IMPERIALE FOR ZUMTHOR

Swiss architect Peter Zumthor is the recipient of this year's Praemium Imperiale for architecture. Awarded by the Japan Art Association in the fields of painting, sculpture, architecture, music and theatre/film, the Praemium Imperiale Awards, now in their 20th year, are regarded by many as the arts world equivalent of Nobel Prizes. Zumthor joins an esteemed gang that includes Foster, Rogers, Piano, Niemeyer, Yoshio Taniguchi and Frei Otto. Surely the RIBA Gold Medal can now not be far off.

www.praemiumimperiale.org

view



Sverre Fehn's tempting interstitial space.

Peter Cook

Our peripatetic columnist gathers his thoughts after a few Venice Bellinis.

Crazy, crazy month. Even crazier than usual: Alexander's1 18th birthday on our lawn is an 'Instant City' of even faster instantaneousness than we could ever have imagined in the '60s. One admires the logic of the designers of el cheapo plastic skin and rod gazebos, or of cardboard plates which now have a shiny plasticity; more plastic than our plastic dreams (jump) ... last Monday I saw the Quasar Khan exhibition through the glass layers of the Cartier Centre. There was all that inflated plastic that we used to own and patch up before any fatso friend might come round and increase the deflation speed from a discreet half day to an indiscreet 10 minutes!

A nostalgic glance as I crossed the Boulevard Raspail to remind a crowd of ESA students of the scrambled culture of London bridges from the former 'wobbler'2 to the historically inhabited London Bridge (jump) ... but I was actually crossing an inhabited bridge - the Rialto - as I went in search of a plastic chair last Wednesday ... but since we're in Venice and the plasticness of the chair (which we found in a dingy offshoot of the Kartell3 empire), so that the Cyprus Pavilion at the Venice Biennale⁴ can make a statement about 'newness' in the face of history ... while



Fehn's addition to Norwegian Museum of Architecture.

a glimpse of the unfinished Japanese Pavilion suggests that plantations in tall and short plastic boxes make a statement about ... containment? inside-outside? ecology? Reminding me of our Pfaffenberg Museum⁵ where tall and short glass boxes containing Roman relics in the garden would remind us of ... containment? history? The fragment as icon?

Come off it: a good idea is a good idea and this business of containment and transparency grabs any thinking architect some time or other, so look across the path towards the wonderful Nordic Pavilion where the (then) young Sverre Fehn knew about containment and the poignancy of trees not incarcerated and threaded them through concrete ... (jump) ... and the (now) old Sverre Fehn makes a glass pavilion that wraps its coat around itself with folds and peeks between: the coat is worn loosely with a tempting interstitial space between6 ... and we must take the subway from this part of Oslo to go up to another lawn, where another (much more considered) instant tent and real china plates and wonderful Norwegian violinists, poets, actresses and jazz singers will celebrate a marriage on the lawn of the artist, Siri Blakstad to Peter Pran the elegant designer of a half-kilometre high piece of Dubai (or is it Singapore?). His architecture has little fear: for somewhere just down the hill from where we are and visible through the trees the Telenor headquarters (AR November 2003) remind us that a sleek, on-budget set of offices can also be a dynamic, imaginative, spacey, whizzy object.

Leaving in the small hours ... down the hill and then, in the daylight, up another hill: which is never officially described as such, but it is certainly a climb that hundreds of people seem to want to make. For the enormous diagonal roof surface of Snøhetta's Oslo Opera House (AR June 2008) is immensely popular - even midweek (melt) ... the day before (or was it the day after ... crazy, crazy month) we realised that Kjetil Thorsen7 and his kids can be every bit as seductive and dreamy as the sinewy Mayan compositions that the 'chirpy' wing of the Lund students (AR August 2008) were showing us this last Friday.

Our real mission8 was the collection of school heads Christine Hawley (Bartlett), Odile Decq (ESA), Brett Steele (AA), Lars Lerup (Rice), William MacDonald (Pratt) and (surely) future heads Ricardo Ostos, Marjan Colletti, Marcos Cruz, David Garcia. Move over plastic, roll in digital growth, digital manipulation and the heroics of interfered-with parametrics. Setting up a marvellous symmetry between a discussion of interfered-with university traditions, interfered-with young minds and interfered-with digital sequences.

For the ambiguity of London's Bloomsbury was being exposed at last and an intriguing discrepancy between Hawley's 'look what we've done' presentation and Steele's 'look what our strategies are' presentation could not prevent the conclusion that they're both on the same side of the firing line and that Bloomsbury still asks more questions than anywhere else (melt) ... despite the inclusions and omissions that this year's Biennale Director, Aaron Betsky, is expected to ask questions about. The Biennales are always as interesting for who isn't in the show as who is. This time there is an anticipation that it will sanctify the Dutch position (he was, after all, director of the NAI9 until recently), before we can all move on. But he can never really control the national shows and all the fringe events, so there is sure to be plenty of parametric growing as well as plastics, even if the spikes and plate glass have long retreated.

Pervading the month is the ubiquitousness of two key devices (what a wonderful spin Reyner Banham¹⁰ would have put on them) - Duck tape¹¹ that binds almost anything to anything, and the hard disk stick, passed from hand-to-hand in a front row of conference speakers or dug out of pockets to info-up an exhibit's display ... panic sets in if in all the melt ... melt of the month it gets mixed up with the washing bag!



Instant City in Venice as the Doge's Palace is refurbished.

And finally, Instant City has reached the side of the Doge's Palace: the view down the crevice from the Ponte della Paglia is ALL Instant City and blue plastic. To my mind, a much more agreeable veneer than that faded stucco: but then I would think that, wouldn't I?

- 1. Our son, Alexander Cook.
- The Norman Foster Millennium Bridge.
 Plastics and furniture giant since the 1960s.
- I am this year, Curator of the Cyprus Pavilion.

 P. Cook/C. Hawley/C. J. Lim/G. Robotham, 1997, Historic
- Museum, 1st Prize, Lower Austria
- Recently completed Architecture Museum, Oslo, Sverre Fehn.
- Thorsen is, with Craig Dykers, head of Snohetta
- Lund University conference on 'Positive School of Architecture'
 Netherlands Institute of Architecture.
- Guru, critic, author of Theory and Design in the First Machine Age.
 Sometimes known as 'gaffer tape'.

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ORGATEC 2008



AND RESPONSIBILITY

and influences transform the context so that height becomes – momentarily and locally – responsible as well as possible. The two criteria have to be considered together and the degree to which the design results from an interaction between possibility and responsibility, and actively redefines them is the principal criterion for selection.

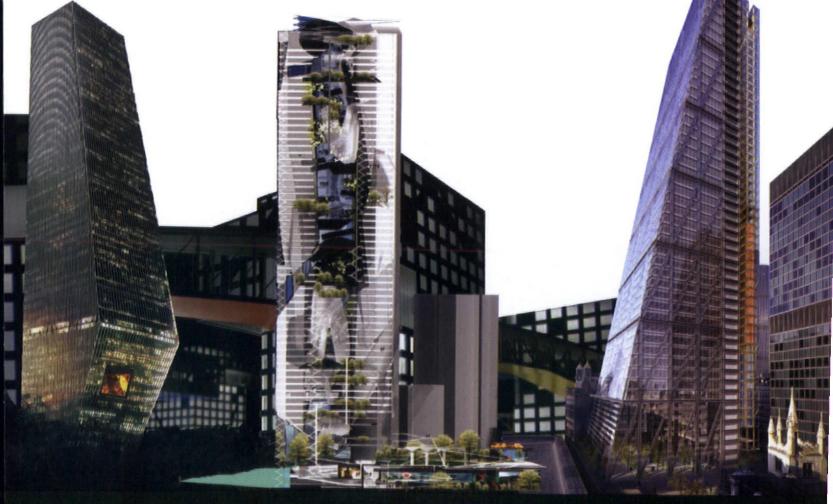
Placing tall buildings in this relativist frame opens all sorts of angles for criticism. More than a century ago, Henry James intuited some of them when he wrote, 'consecrated by no use save the commercial at any cost, they are simply the most piercing notes in that concert of the expensively provisional into which your supreme sense of New York resolves itself' (*The American Scene*, 1907).

Tall buildings are 'expensively provisional' in several ways: they are expensive providers of space, though provisional also evokes a sense of being temporary, or at least encouraging change by inviting imitators and competitors. James was probably stressing a third meaning which combines these two: tall buildings create such rarefied conditions that – however contingent or 'provisional'

they may be - they redefine our experience and interpretation of architecture and its context.

For James the provisional becomes embedded in perception, achieving a status that was previously reserved for absolute categories. He suggests a way beyond simplistic mechanistic criticism where criteria are mutually exclusive into a richer, more complex territory where the parameters of each criterion can change because every one helps to define the others. Pursuing possibilities opens up new ways of reacting responsibly: conceiving of responsibility across a whole spectrum rather than in one part of it might generate new possibilities. This is what *Height* explores.

New possibilities such as the steel frame and safety lifts inevitably drove early tall buildings. As the type radiated outwards from its North American origins to Europe and Japan after 1945, the tendency slavishly to follow existing models privileged possibility over responsibility. Miesian towers exuded the possibilities of curtain wall construction and air conditioning. Any



deviation from the norm was considered a heresy against modern architecture, as the furore over BBPR's attempt to design a regional and contextual tall building at the Torre Velasco in Milan shows.

The degree to which a tall building deviated from approved North American models became an inverse measure of economic prowess. The perceptions which accrued from sticking to the model proved very attractive to Johannesburg, which in the 1970s had economic and political reasons for trying to belie its geography rather than to resolve some of the pressing problems of urbanisation in Africa. SOM and Arup Associates, neither on top form, helped to give it a skyline that might be mistaken for a third rate American city.

But by the end of that decade new streams of thinking had started. Norman Foster was working on the Hongkong and Shanghai Bank, which responded to local conditions as well as taking ideas for office organisation — which may owe something to Herman Hertzberger — towards the sky. Similarly Ken Yeang (p54) was beginning to work out ideas for the bioclimatic skyscraper. As economic development has spread to new parts of the world over the last decade or two, those ideas have multiplied apace. Devising a regional response to the challenges of tall building has become a better index of economic prowess than imitating the West, both symbolically and crucially in terms of responsibility too. This offers a way beyond the banality of repetition that put off Rem Koolhaas (p42) when he told *Time* magazine 'The promise the skyscraper once held has been negated by repetitive banality and carefully spaced isolation'.²

Yeang himself articulates the crux of the challenge in designing tall buildings. If they are typically 30 per cent more expensive to build than low rises with the same floor area, they need a powerful motivation. That might come from high land value or ego, but it can also come from a need to create density at certain points within an urban system. This is relevant to cities in the developed and developing worlds: the first may have infrastructure in place, but in those which are growing, like London and New York, it is overstretched as well as expensive and slow to upgrade; cities in the developing world have less infrastructure and tall buildings help to rationalise strategies for creating it.

FOA's KL Sentral in Kuala Lumpur (p68) and AHMM's Villaggio II in Accra, Ghana (p72), both illustrate the virtues of densifying around transport interchanges. Karl Fender, of Eureka

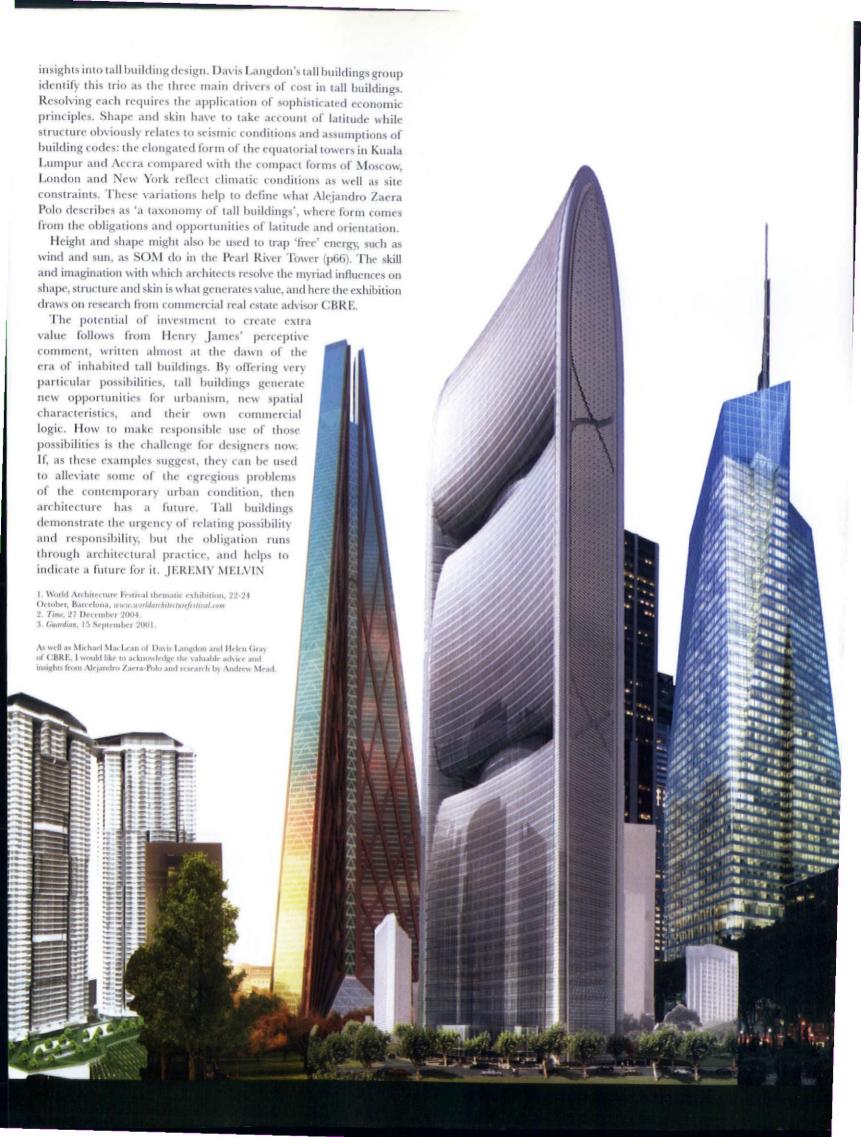
Tower architects Fender Katsalidis (p76), calculated that if living in suburbia, the residents of its 560 apartments would cover 75 hectares – and have to drive each way to work. Ken Yeang talks of 'vertical urban design', upending Terry Farrell's horizontal principles to the vertical dimension. As Norman Foster puts it, 'Skyscrapers are as much a reality as urbanisation itself. They're not going to go away'.³

Economic conditions offer many insights into the relationship between possibility and responsibility. Indeed the discipline imposed by commercial equations often creates more interesting designs than pure ego. Supertall buildings bring this to its apogee, and Foster + Partners' 600m Russia Tower (p46) is an elegant demonstration of how the physical conditions of structure can interact with the contingent ones of value, by matching activities to the changing spatial characteristics which the structure generates across its height. The wide base creates deep space which is suited to public functions like retail which also benefit from easy access. Above that are offices, which have relatively short lift runs and clear span space across the 21m wide wings. Next is hotel accommodation which enjoys a sky lobby and views, and where a run of structure in the centre of the wings suits the layout of rooms on either side of a central corridor. On top are residential floors, having spectacular views and the presence of 'cold spots' in the structure, where members can be removed to join floors into duplexes - making spectacular spatial possibilities at the point where they command superprime values. But the highest inhabited floor is given over to a public viewing gallery, though if the experience of Eureka Tower is anything to go by, where word of mouth gradually built up visitor numbers to its observation deck, this too will prove a valuable commercial opportunity.

By contrast a relatively short tower, such as the 30-storey Villaggio in Accra, has the possibility of creating extra space on the more valuable higher floors, through a cleverly engineered cantilever that overcomes both the limitations of the local construction industry and the lively seismic conditions. In both supertall and merely high examples, structure, value and aesthetics combine in a way that would be hard to quantify in terms of 'commodity, firmness and delight'.

Instead of this Vitruvian triad, the *Height* exhibition proposes that the relationship between shape, structure and skin gives more









OMA'S new landmark tower for Mexico City is a powerful symbol of identity, allied to propositions about density, history and the modern city.

Mexico City is one of the world's largest conurbations and its sprawling growth seems set to continue. OMA point out that it – and Latin America in general – has a deficit of tall buildings compared with other parts of the world with a similar economic profile, even though they offer the potential to create much needed density. Torre Bicentenario

shows how the tall building type can be reconfigured to exploit technical possibility in the service of responsibility, using the unusual condition of height to create images that help to create an identity for the city that recognises its dynamism, ephemera and fragmentation, and to form new types of physical experience and sensation.



At 300m and 64 floors high, Torre Bicentenario would be the tallest building in Latin America, and it suggests a new pattern of development for the city, in both symbolic and in functional terms. It creates a memorable icon, adds to the city's relatively small quantity of top quality office space and suggests different relationships between the three urban elements it adjoins: a park, the city itself and a junction between two busy highways. The design reconfigures these constituents around patterns of public space which are only possible with tall buildings, with sky lobbies, observation platforms and a kinked atrium that connects the interior to the sky and park, rather than being a typical hermetically sealed internal space.

The unusual shape is both iconic and practical - in the sense that it creates more cultural and economic value from height than a regular shape would on this site. The iconic quality comes from amalgamating two existing icons, an inverted Mayan pyramid below Boullée's Egyptian cenotaph, combining local resonance with abstract architectural theory. Practically the shape reduces the impact at ground level on a restricted site to about 40 x 40m and expands to 60 x 73m at the sky lobby, a third of the way up the building. Above and below are regularlyshaped floorplates. The bulge also reflects political conditions, the developer favouring the party which controls the park and disliking the rivals who control the city. JEREMY MELVIN

Architect
OMA
Partners in charge
Rem Koolhaas, Shohei Shigematsu
Structural engineer
Arup
Client
Grupo DANHOS
Status

Unbuilt



2
Models explore scale
and form.
3
Boulleé's famous
Egyptian cenotaph
mates with an inverted
Mayan pyramid. city generation of form Marian Balanca Balance



RUSSIA TOWER, MOSCOW, RUSSIA
ARCHITECT
FOSTER + PARTNERS

NORTHERN STAR

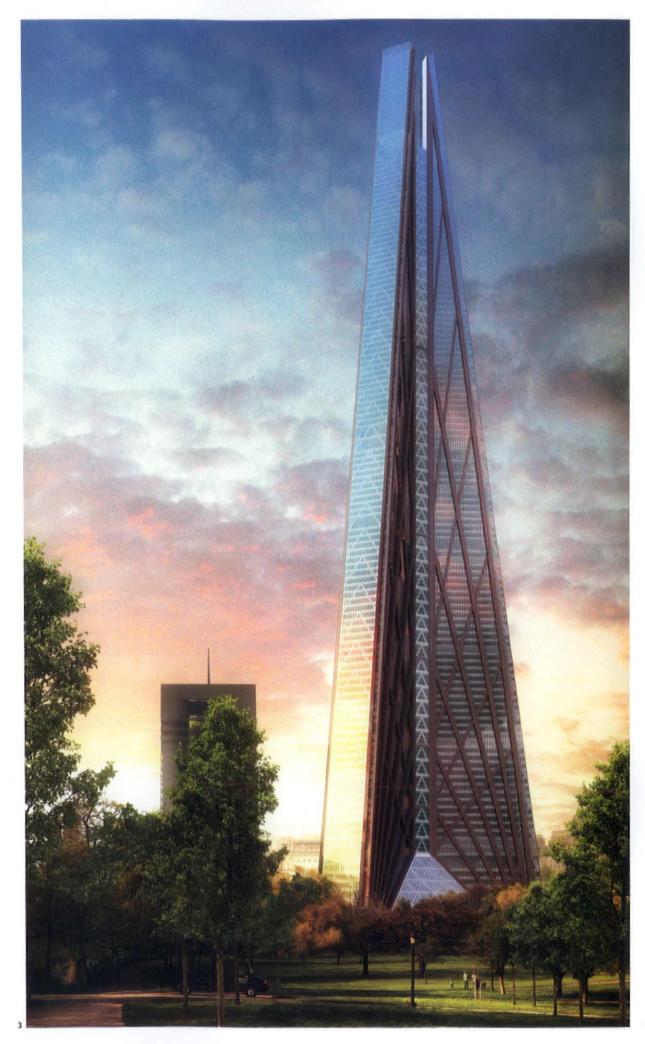
At the northern limit for tall buildings, Foster's daring Russia Tower tests extremes of scale, structure and form.

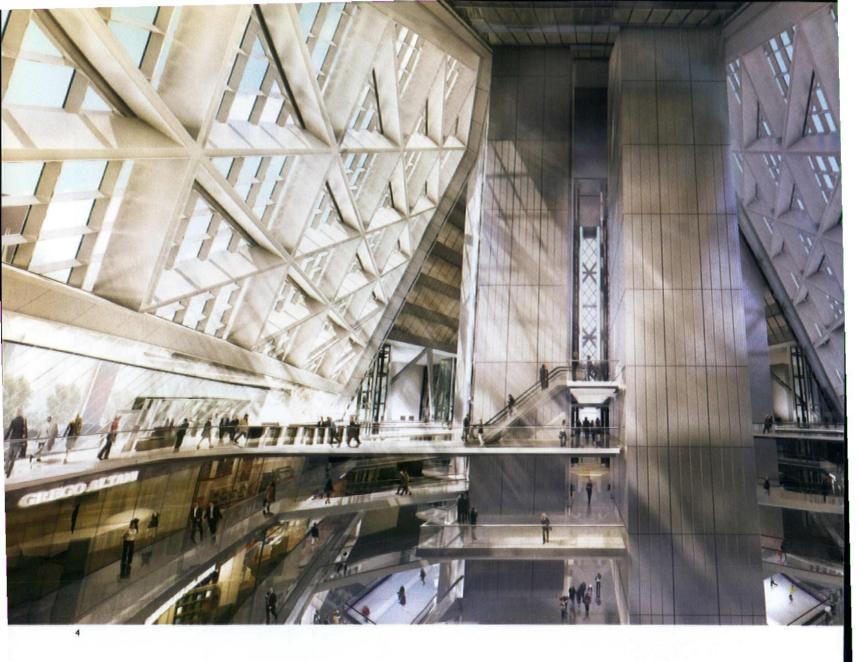
The 600m tall Russia Tower will be Europe's tallest building and the world's third highest when completed, and it is almost as far north and in as extreme a climate as anyone will build this high. At this height, structure is a prime consideration; Foster + Partners start with the elementary and efficient proposition that three supports is the minimum number needed to define a point in space and develop that into a sophisticated visual expression of the synthesis between structural, commercial and environmental factors. It helps that the site, about 8km from the Kremlin, is triangular which means that the residential, hotel and office accommodation can all have their own entrance, but its logic would be compelling in any case.

Foster quickly recognised that joining the three towers proposed for the site would increase efficiency and visual impact, as they could triangulate each other. That results in three wings, each an extraordinarily slender



The 600m structure towers over Moscow. 2 Model showing tower in its urban context. 3 Three slender glazed wings soar skywards.





RUSSIA TOWER, MOSCOW, RUSSIA ARCHITECT

FOSTER + PARTNERS

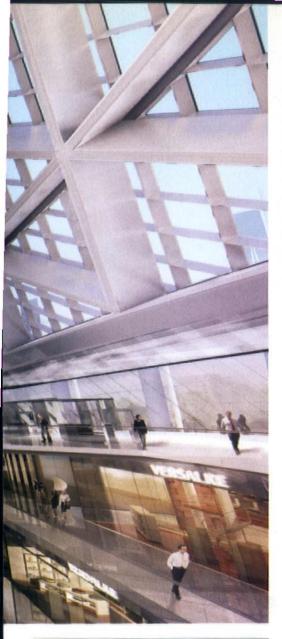
4
Deep plan lower levels
become luxurious havens
for retail activity.
5
The tower becomes a
luminous beacon at night.
6
Cross section.

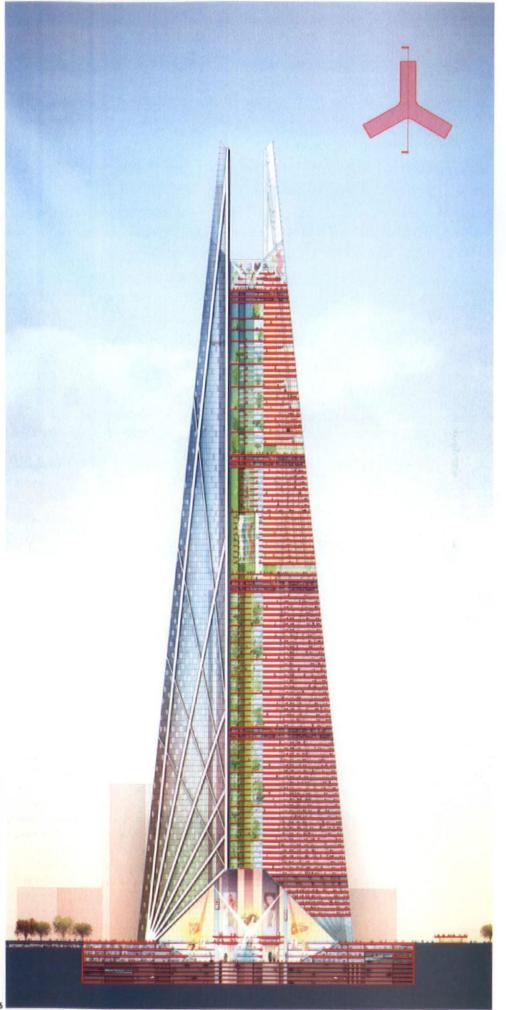
constant 21m wide and 600m high, which meet at the core. The length of the wings from core to outer edge shortens as the tower rises to give the tapering shape. That is structurally efficient but the practice have also found ways of matching use and value to the different spaces which the structure and shape generate. First, at ground level the structure concentrates at the wings, leaving the space between to make wide, welcoming entrances into the publicly accessible lower levels, their deep plans and easy access being equally suited to retail.

As height adds far more value to apartments than offices, commercial logic makes the upper floors residential with offices on the more accessible lower levels. Foster and the engineers Halvorson have devised the structure to add more value to this natural layering. The office floors are clear span across

their 21m width giving the sort of flexibility that induces commercial occupiers to pay premium rates, while structural analysis identifies 'soft spots' in the upper levels where floors might be removed to make spectacular duplex apartments. In between the apartments and offices are a hotel and serviced apartments and each use has its own lobby and lift core. The highest occupied level is a public observation deck which looks up to the stars as well as across the vast Russian steppe. J. M.

Architect
Foster + Partners, London
Structural engineer
Halvorson & Partners
Client
Russian Land
Status
Unbuilt







LINKED HYBRID, BEIJING, CHINA ARCHITECT STEVEN HOLL ARCHITECTS



DYNAMIC HYBRID

A cluster of towers ingeniously linked by a vertiginous bridge inverts the conventional relationship between tall buildings and the public realm.





In the Linked Hybrid, Steven Holl reverses the traditional relationship between towers and the public realm. Towers have always tended to be 'object buildings', and even when grouped together as in San Gimignano, Manhattan or the Plan Voisin, they competed rather than complemented each other except in the abstract composition of the skyline. Instead the Linked Hybrid defines and encloses public space at ground level, but also uses its height to create public spaces where traditional

urbanism never could, at high level. These are the bridges that link the eight towers which together with the compilation of characteristics from towers and low-rise urban forms, give the project its name. Though initial uses are suggested, they are intended to generate random juxtapositions that adapt over time, elevating the palimpsest-like effect that historic cities have at ground level.

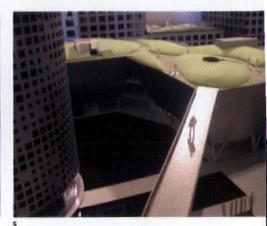
The design responds subtly and in many ways to Chinese urbanism, from following



LINKED HYBRID, BEIJING, CHINA ARCHITECT STEVEN HOLL ARCHITECTS







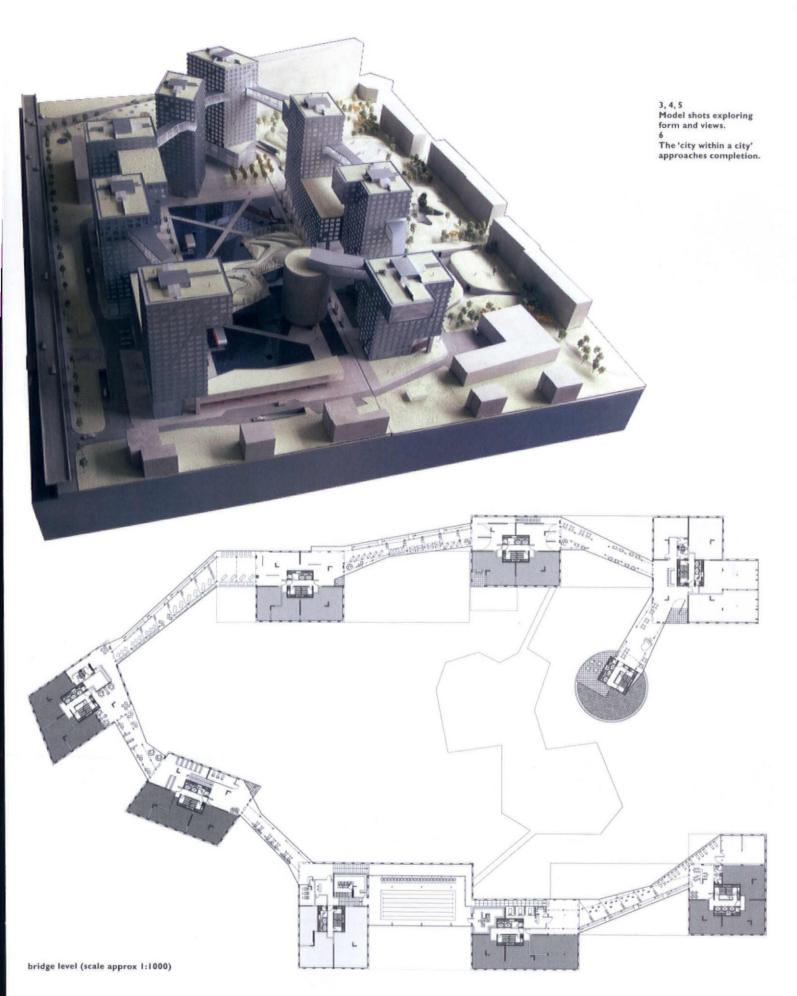


traditional Feng-Shui principles to using the new - to Beijing - phenomenon of vertical living to give opportunities for individual expression that Chinese mass housing typically lacks. But Holl re-imagines all these impressions of Chinese architecture through a contemporary sensibility: light itself, especially at night-time, introduces the polychromy that traditional architecture conveys with its textures. This ephemeral effect, specific in time rather than timeless, continues into actual physical spaces and forms. Carefully contrived shapes and angles of the buildings mean that moving through the development introduces numerous different vistas and sensations, sometimes enclosed, sometimes panoramic.

Holl's urban vision offers a myriad of literal and perceptual possibilities for the 2500 residents of its 620 apartments. Recreation and shopping are in the sky as well as on the ground; their neighbourhood is dynamic rather than static, and within it they might achieve a different sense of self than traditional living could offer. J. M.

Architect

Steven Holl Architects, Beijing
Structural engineer
Guy Nordenson & Associates
Client
Modern Investment Group, Beijing
Status
Under construction, almost complete
Photographs
Iwan Baan, 2, 6





BATC TOWER, GERMANY
ARCHITECT
LLEWELLYN DAVIES YEANG

GREEN GIANT

Consolidating his reputation as the doyen of eco-towers, Ken Yeang's provocative vision of vertical urban design continues to evolve.



In the Business Advancement Technology Centre tower, Ken Yeang takes all the activities and patterns of use that might take place on an urban ground plane, and flips them into the vertical. His concept of 'vertical urban design' brings together all the characteristics of a city, reconfiguring their spatial relationships and circulation to take advantage of height, and to offset its drawbacks. If tall buildings densify and add to the possibilities for urban life the extra resource in constructing them can be justified, Yeang argues, but only if they recreate the public realm and human activity of a city. The content that this generates provides the parameters of the design, its shape, circulation and skin.

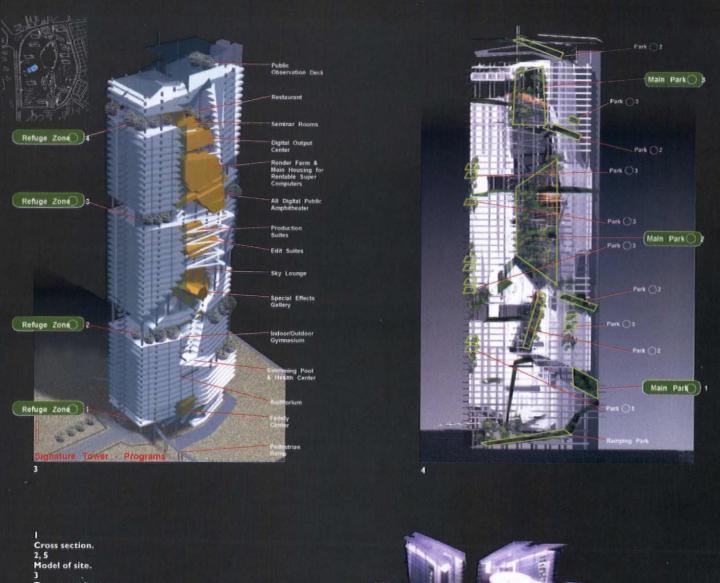
The 60-storey tower is mixed use with a hotel, apartments, offices, an art gallery and children's nursery as well as retail and cafés. That creates a series of segments linked by three levels of circulation: the first, linking the segments themselves is akin to a railway and the second distributes people within each segment. Both of these use lifts. The third

level is like a local street pattern and joins groups of two or three floors, which opens the way for ramps and escalators which create visual connections along the routes bringing traditional urban qualities to the high rise.

As in a horizontal city, the meeting points of different transport systems make opportunities for a public realm. This runs as a network of large, secondary and pocket 'parks' throughout the tower, some of them open to the outside, others internal. Together they make a green armature throughout the building, joined together and connected to nature on the outside. This is the first of four levels of environmental design, the second being people and spaces, the third technology or distribution of power and services, with the last being the strategy for distributing, harvesting and recycling water. J. M.

Architect
Llewellyn Davies Yeang,
Structural engineer
To be appointed

Client Confidential Status Unbuilt







ON THE SKYLINE

Building high in New York after 9/11 invariably carries a huge weight of responsibilities, but also suggests new possibilities for city life.

1, 2
Seven years after 9/11, the
Manhattan skyline finally
has a new addition.
3, 4
The crisply faceted form
reflects an interest in
bio-mimicry.

As the first major development to be initiated in Manhattan following 9/11, 55-storey One Bryant Park carried a series of responsibilities to the city and its people, but from them arose a number of possibilities that helped the developers and architects to raise expectations for high-rise building in a dense and mature city. The Durst family have taken a long view in their developments on Manhattan. They developed 4 Times Square, a pioneering 'green' skyscraper, and had spent 40 years assembling sites on the block between 42nd and 43rd Streets facing Sixth Avenue. But it was the perception of responsibilities on the

part of several different public and private organisations in the wake of the tragedy of 9/11 that allowed the site's latent possibilities to come to fruition.

The Bank of America, eager to show its confidence and financial power by owning a piece of Manhattan, entered into a joint venture with the Durst Organization. Liberty Bonds helped to provide finance, while the Empire State Development Corporation, a public body, threatened to use statutory powers to buy remaining landholdings. Rather than invoke its statutory exemptions from zoning regulations, it entered into constructive

dialogue with the City Council to explore what public benefits might come from the development. The Council responded in kind, recognising that it could discharge its responsibility to the people of New York more effectively by suspending some development restrictions in return for a reconstructed 1000 seat theatre, an arcade through the building and widened pavement on 42nd Street.

Cook + Fox set out to transform the field of possibilities and responsibilities that these contingent circumstances created to provide the healthiest and highest quality workplaces in the city. At the time top rents were around







COOK + FOX ARCHITECTS

\$85/sq ft; One Bryant Park set its target at \$100. With the opportunity to create vast dealing floors on the lower level floorplates of up to 90 000sq ft, Bank of America took half the 2.2m sq ft, leaving the upper floors and more valuable floors to let speculatively.

Shape, skin and a conception for the internal environment are the keys to this extra value. The dense site meant the lower levels would follow the orthogonal city grid, while the upper floors could assume a form which responds to views and creates additional corners for prime offices. The result was inevitably a faceted shape which reflects Cook + Fox's interest in bio-mimicry as well as the speculative designs of Hugh Ferriss. The skin, an aluminium-framed curtain wall with low emission, high transparency insulating glass, reinforces the faceted form by picking up on different reflections throughout the day.

But it also sets the pattern for the internal environment, maximising daylight transparency to capitalise on the views.

The environmental strategy has a bearing on the interior too. Much of the air is fresh rather than recycled; a 5mw high efficiency on-site gas turbine generator with heat capture provides two thirds of the power needed over the course of the year at three times the efficiency of power from the grid, while waterless urinals save 3 million gallons of water per year. J. M.

Architect

Cook + Fox, New York

Structural engineer

Severud Associates

Client

Durst Organization/Bank of America joint venture

Status

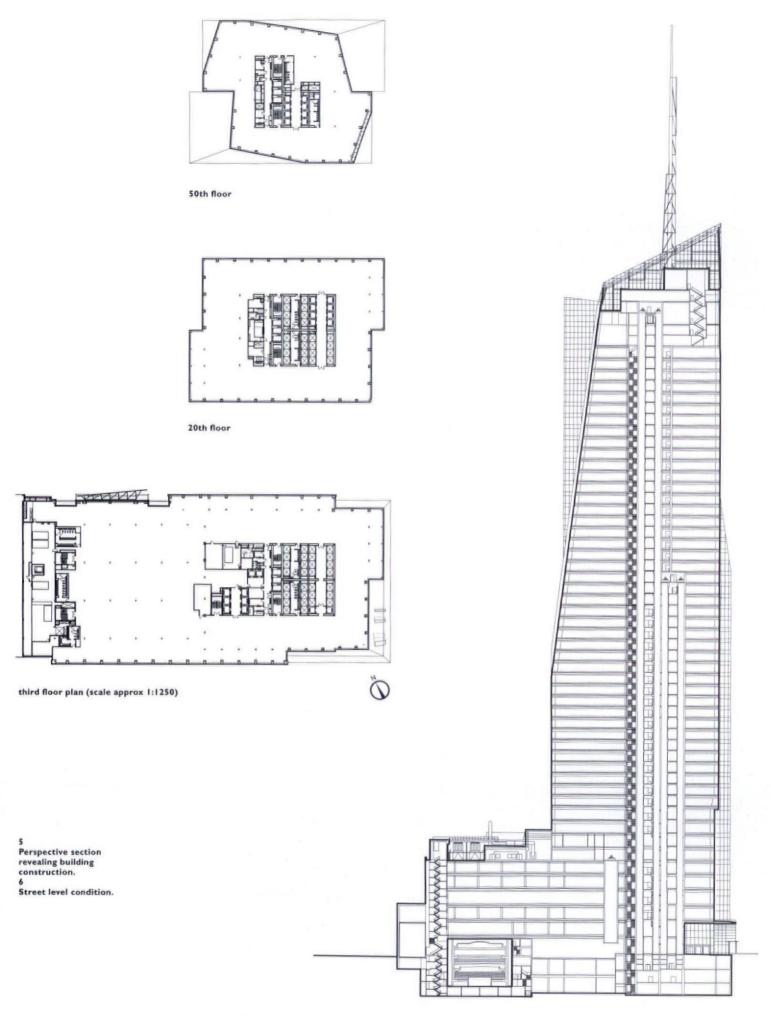
Completed

Photographs

dBox, 2, 3, 4, 5; courtesy of the architects, 1, 6









CITY SUBTLETIES

Despite its scale, this speculative office tower for the City of London attempts to evoke a sense of place and respond to a sense of history.

Rogers Stirk Harbour see possibilities in the context and use of the Leadenhall Building to create an articulated, subtle and dynamic architecture for tall buildings, in contrast to the 'super-graphic' ideas where an abstract concept is all. This approach means the design can respond to its various 'contexts', the pattern of activity and uses at ground level and the abstract series of light angles and view corridors that determine the developable envelope at higher levels, with a different impact and character for each. That sets up the possibility for a graded sense of scale, intimate and tactile at the lower level where much of the ground level and several floors above it are given over to an enclosed public space with amenities which adjoins two open ones, becoming stately and dignified above where its public presence is more visual than physical.

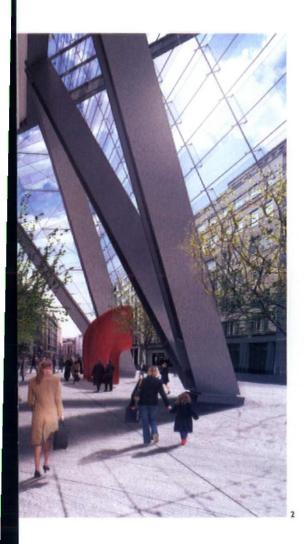
As a speculative office tower, creating value is important too and it also depends on a balance of measurable and subliminal qualities. With all the vertical circulation along the rear side which faces sites where other tall buildings



are planned, the floorplates are very efficient because of the way the design resolves two conditions of a tall building, the structure and core. A 'megaframe' structure minimises the number of columns for each floor, while using the lift core landings for WCs on the floors which the lifts do not serve takes the net to gross ratio from 59 to 71 per cent.

What creates additional value over these commercial qualities is the way the building works with its context. Recognising that a building of this size could never be neutral, it helps to reinforce the possibilities which the public realm has for casual meetings, and to weave a place that responds to the City of London's historic character into its present and future. J. M.

Architect
Rogers Stirk Harbour + Partners
Structural engineer
Arup
Client
British Land
Status
Under construction





HEADQUARTERS BUILDING, RIYADH, SAUDI ARABIA

ARCHITECT

PERKINS + WILL



Perkins + Will's proposed headquarters of the Islamic charity the Albirr Foundation brings together many of the most salient points in tall building design. It has an important symbolic function as the visible emblem of an important social institution, while it also has to synthesise the characteristics of an institutional headquarters with commercial considerations as the foundation may wish to let out some of the office space. The result might be compared to an amalgam of the Ford Foundation with the Seagram Building, with reinterpretations of traditional Islamic features and attuned to the urban context and harsh climate.

At 26 storeys it is tall by local standards, and on axis with two other institutions which mark their symbolic importance with tall buildings, the Kingdom and Al-Faisaliah Centers. At a glance its gridded facades might recall a typical office tower, but they veil an atrium which spirals up from the ground to a roof garden. The spiralling minaret, the veiling screen or masharabiya and the garden are all features from traditional Islamic architecture. The latter in particular has local significance as Riyadh derives from the Arabic word

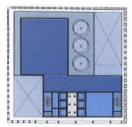


GARDEN TOWER

Wrapped in a gridded skin that recalls a traditional masharabiya, this tower in Riyadh tempers and tames extremes of climate.

Aerial view of the proposed site in Riyadh. 2 Gridded facades enclose a green atrium that spirals

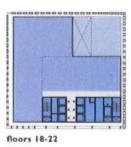
up the building.

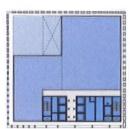


roof garden

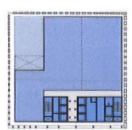


floors 23-26

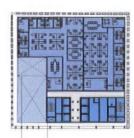




floors 13-17

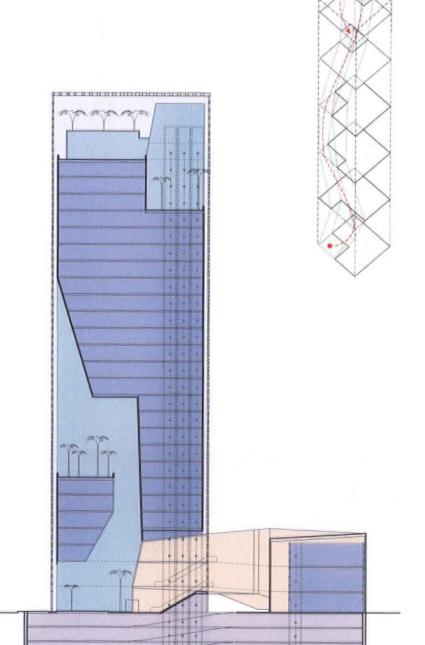


floors 9-12





generative sketches and modelling



plan floors 4-8 (scale approx 1:1250)

HEADQUARTERS BUILDING, RIYADH, SAUDI ARABIA

ARCHITECT

PERKINS + WILL

3 Entrance lobby.

rawdah which means place of gardens. The city was founded at a confluence between several watercourses or wadis.

The design deftly combines these features in a way which suits climate and contemporary needs. Riyadh lies just out of the tropics at 24 degrees north so the sun always comes from the south: accordingly the accommodation is pushed against the south facade to shield the atrium from solar gain. P+W's strategy of a complicated section and straightforward plan

resolves into differently shaped but always rectilinear floorplates, and each group of floors has its own aspect to the atrium garden.

Architect

Perkins + Will, New York

Structural engineer

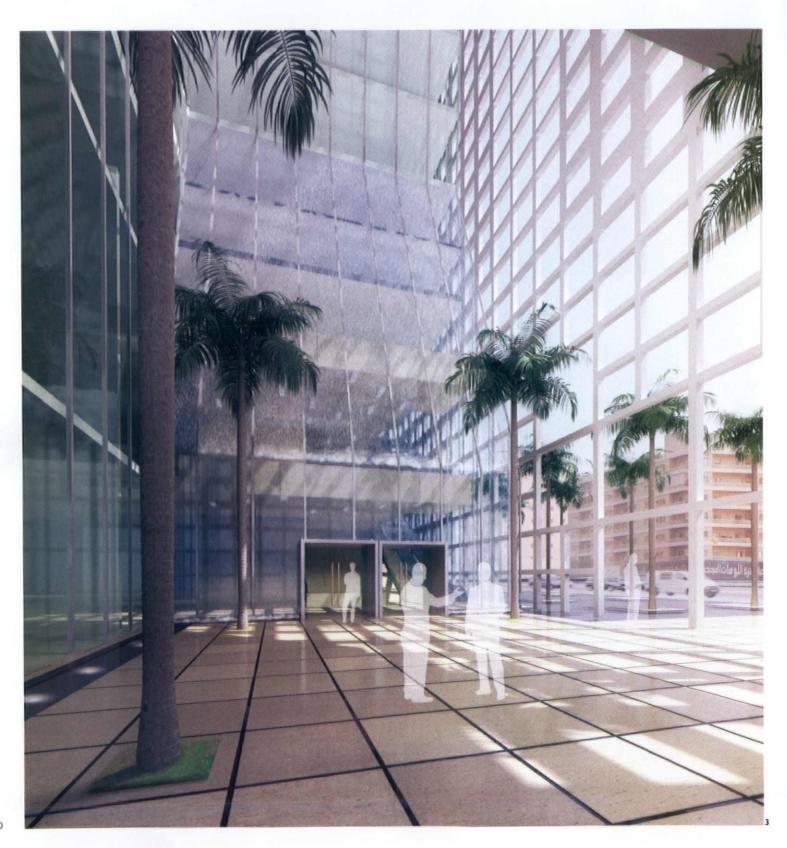
Guy Nordenson & Associates / Mohamed Harasani Architects

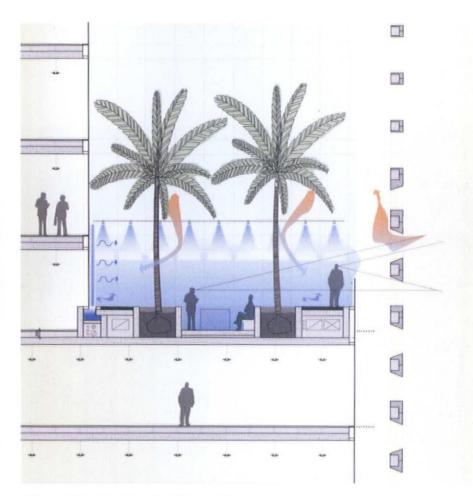
Client

Albirr Foundation

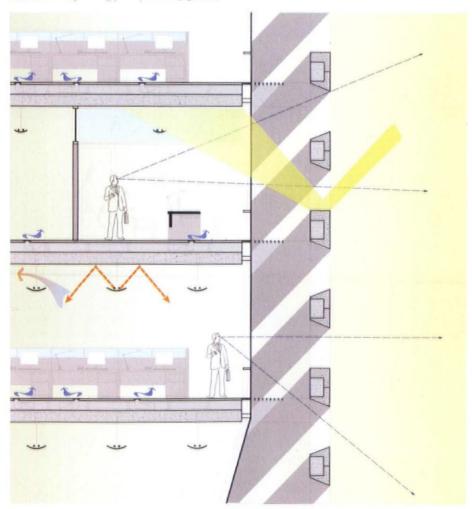
Status

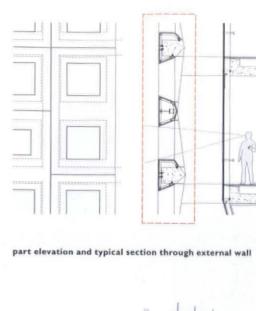
Unbuilt

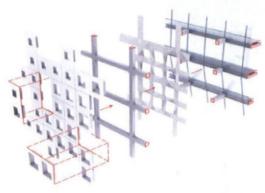




section showing cooling principles of sky gardens

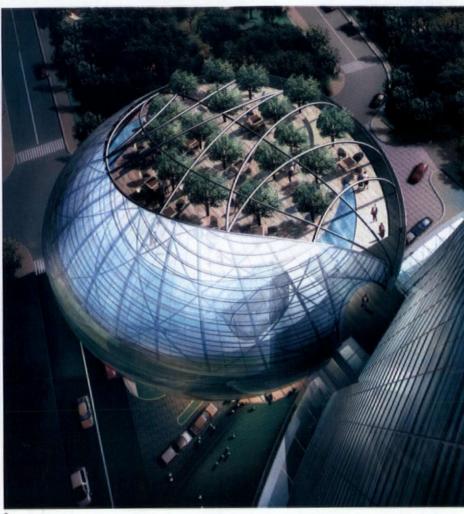






exploded detail of wall construction





CULTURED PEARL

Working in the hot house of China, SOM attempt to radically redefine the relationship between tall buildings and their energy consumption.

Pearl River Tower (AR July 2008) shows how a tall office building can generate as well as consume energy. It may not reach the magic figure of 'zero net energy consumption' when it is in operation, but it will be 58 per cent more efficient than the local building codes require. Much of that comes from passive measures which drive down energy use — like chilled ceilings which allow floor-to-floor height to drop from 4.5 to 3.9m, creating an additional 10 000sqm of space within the height limit. But SOM also set out to see how a 71-storey, 310m tower might take advantage of the natural

elements to generate power for itself within the permitted development volumes and in response to local geographical conditions.

The two principal elements are wind and sun. Photovoltaics line the roof, but wind is a more important factor on the shape. In Guangzhou, it comes from the south for 10 and a half months of the year and the north for another month. That predictability helps to set a specific orientation for the building which acts like a 75m wide sail whose surface leads towards the pressure relieving points or turbines at one and two thirds of its height. Rather than resisting the wind

with passive structural strength and bringing the forces it generates to the ground via a frame, Pearl River Tower transforms it into electricity close to the point of impact. That makes a small reduction in the size of the lateral structure, and treating the wind in this way also has a positive impact on the microclimate as it relieves the negative pressure on the leeward side.

Making a low energy building throws the relationship between nature and culture into sharp relief. Nature may offer opportunities to generate energy, but the pattern of energy use stems from culture. Pearl River Tower proposes a new synthesis between them. J. M.

Architect

Skidmore, Owings and Merrill
Structural engineer
Skidmore, Owings & Merrill
Client
China National Tobacco Corporation
Status
Under construction



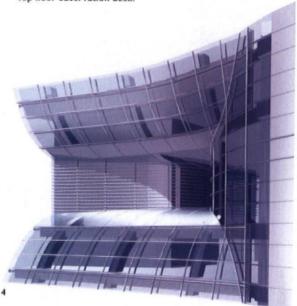
At 71 storeys and 310m tall, the Pearl River Tower looms over Guangzhou.

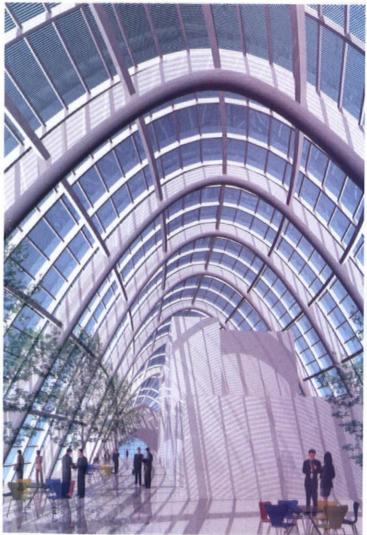
Detail of sky garden.

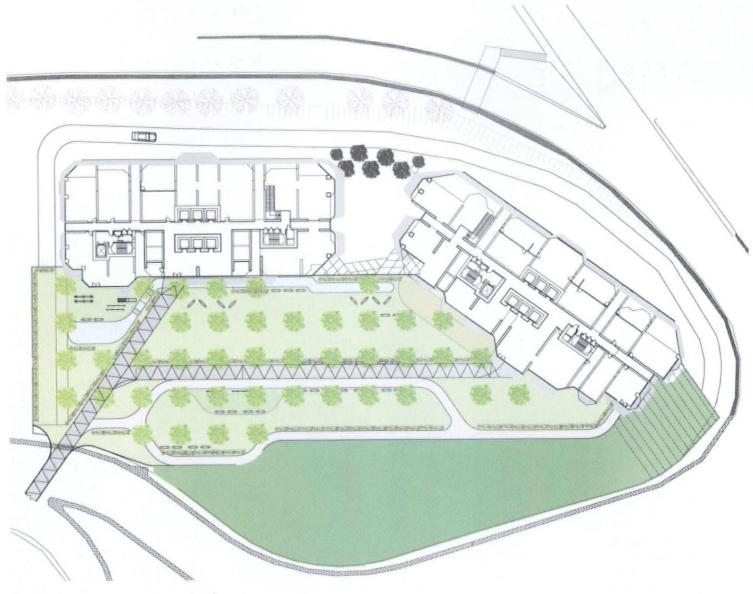
The building functions as a giant sail, capturing wind to generate electricity.

Detail of wind turbine.

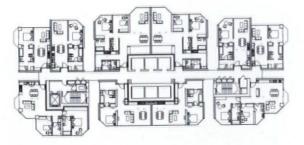
5 Top floor observation deck.



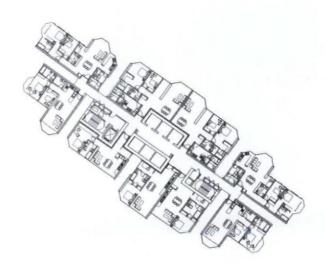




site plan



typical floor plan (scale approx 1:750)



TROPICAL TWIN TOWERS

Foreign Office's proposal for residential high rise in Kuala Lumpur is shaped by climate and latitude.



KL Sentral is a large development which densifies the area around Kuala Lumpur's main transport hub. FOA's pair of towers, linked at roof level, have 52 storeys of residential accommodation and the design shows how high-rise living might work in a hot, wet climate just north of the equator. At this latitude the sun can come from all directions over the course of a year, and so does not establish a favoured orientation. But its extreme intensity means the interiors must be protected from it and any potential for cooling such as breeze must be maximised. These priorities have generated quite different shapes and skins to those in more extreme latitudes, where the sun always comes from one direction, may or may not coincide with the best view and where heat and light need to be trapped rather than excluded.

Topmost floor.

The vigorously articulated facade provides shade to the apartment floors.



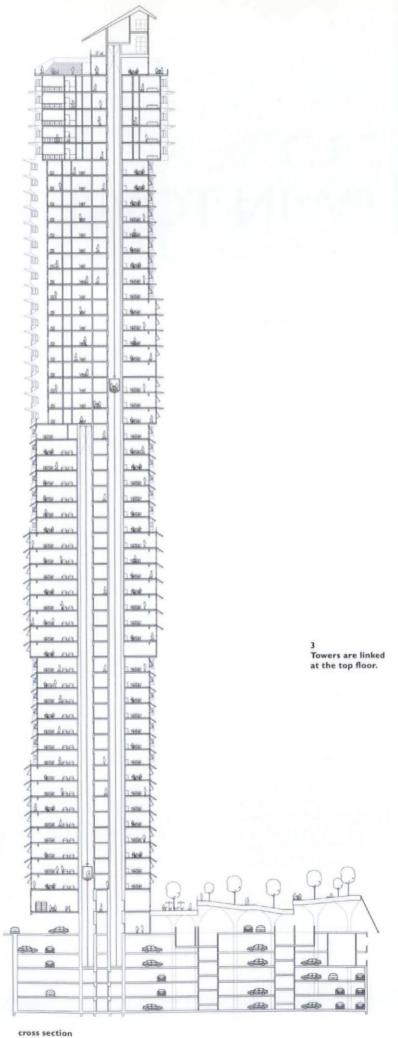
LINKED TOWERS, KUALA LUMPUR, MALAYSIA ARCHITECT

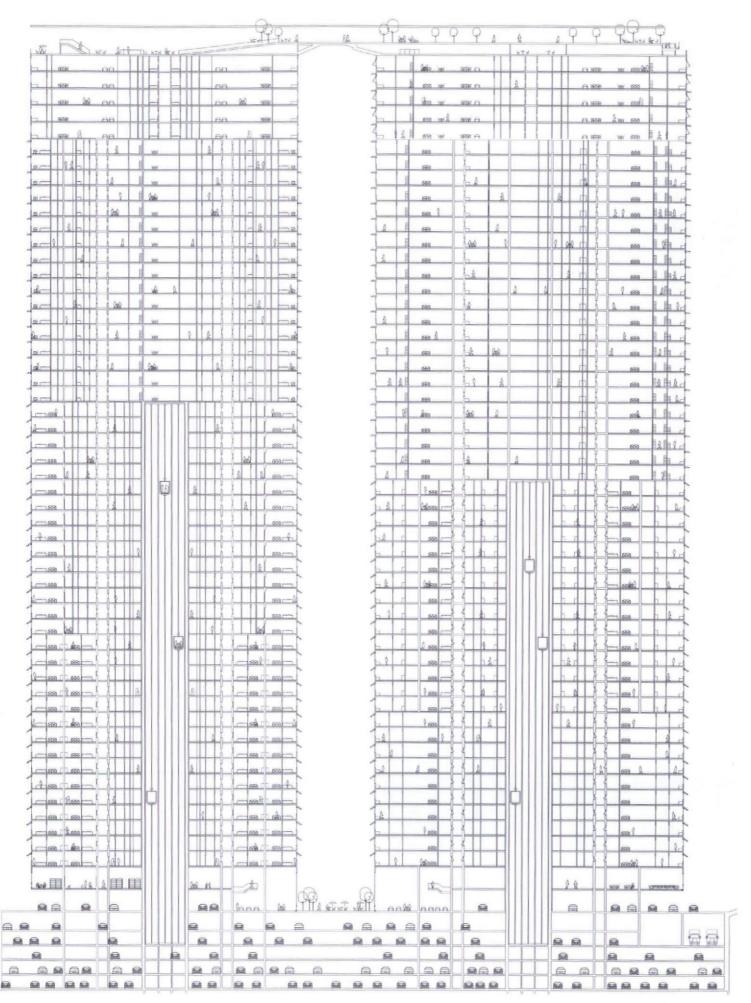
FOREIGN OFFICE ARCHITECTS

FOA's concept is for long, thin shapes. The short edges face east and west which have sun throughout the year, while the longer north and south facades never have sun at the same time. How to make meaningful facades that reflect the constructional and cultural context is a long-running FOA concern, and here they are formed by a family of precast panels that give them a threedimensional effect. This has many purposes: it provides shading and an interstitial zone between the extreme outdoor climate and the living zones; it provides balconies which protect and extend the rooms and it adds a sense of dynamism and shifting perspective to the design. J. M.

Architect
Foreign Office Architects
Structural engineeer
T.Y. LIN International
Client
Capitaland
Status
Unbuilt







VILLAGGIO II, ACCRA, GHANA ARCHITECT ALLFORD HALL MONAGHAN MORRIS



GHANAIAN VEILS

Finessing the challenges of climate and locale, high rise comes to West Africa in the form of a bold, 30-storey residential tower.

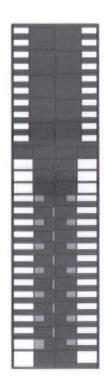
At 30 storeys, the tallest building at Villagio II is the highest in West Africa. It is also an exercise in how to build high-rise residential accommodation in a hot, wet, equatorial location, where earthquakes are a risk and the local construction industry does not have the finesse of its counterparts in the developed world. In this latitude the sun comes from either north or south depending on the time of year, and it is so intense that it has to be filtered out of the interiors rather than enticed in. This has a big effect on the orientation and so the shape, as well as the skin.

The rationale is to offer a new type of housing for Ghana's emerging middle class, many of whose members are highly educated and have lived in the developed world but are returning because the country's political and economic prospects are improving. As much of Accra is low-rise sprawl and it is growing at a fast rate, creating a new form of housing which densifies the existing built-up area is essential. This scheme is the second phase in a development on land adjoining a slip road to the junction between Ghana's only two motorways, a classic blighted site where height is essential to creating value.

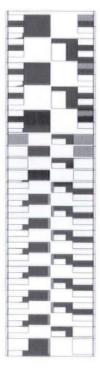
Two notable features of the design are the cantilevered forms and the pixelated long facades.

The cantilever creates more space where it is most valuable – on

The Villaggio development offers a new apartment block prototype for Ghana's emerging middle classes. Block B is on the right. Striated elevations recall traditional Kente fabric.



Block B front elevation



Block B



Block B side elevation

VILLAGGIO II, ACCRA, GHANA

ARCHITECT

ALLFORD HALL MONAGHAN MORRIS

the upper levels. Such a form may not be possible or practical in a supertall building of 300m or more; although at 30 storeys Villaggio is relatively modest in height, it will be the tallest building in West Africa. The facades both help to reduce solar gain and create a veil which recalls traditional Kente cloth patterns. Behind them are the apartments with private 'sky courtyards' that provide external spaces which are shaded from the sun and screened from the rain. J. M.

Architect

Allford Hall Monaghan Morris Structural engineer

Adams Kara Taylor

Client

Trasacco Estates Development Company

Status

Unbuilt

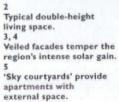


Block B unfolded elevation







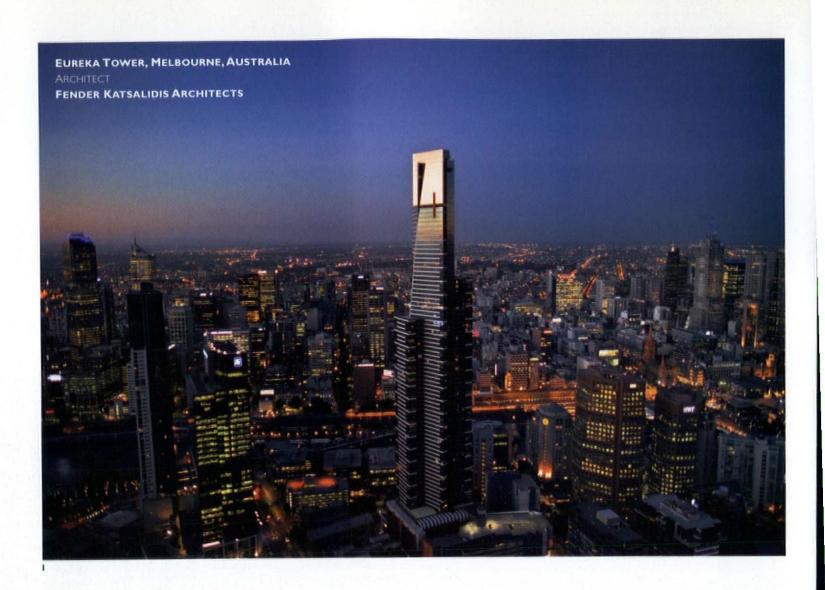


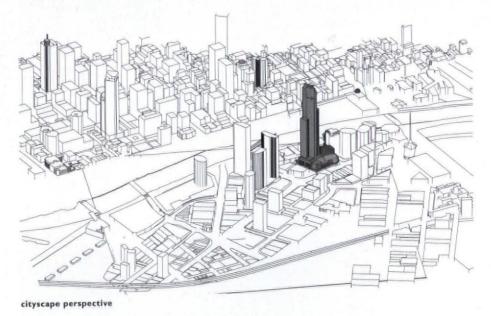












AUSSIE RULES

In the heart of Melbourne, the world's tallest residential tower acts as an agent of densification and regeneration.

At 300m the tallest purely residential building in the world (measured to the highest inhabited floor), Eureka has a dramatic impact on the changing cityscape – not just the skyline – of Melbourne. With 560 apartments it shows how height can help to densify and regenerate an inner city.

In the early twentieth century, Melbourne was a classic sprawling city, with a CBD on the north side of the River Yarra which emptied at 6pm as workers drove to homes in ever more distant suburbs. Railways cut the city centre off from the river, while its south bank was given over to industry. But a tipping point occurred. Just as industrial decline in the early 1990s opened up new sites close to the city centre, Melburnians began to see attractions in apartment living. The result was a repopulation of the central area, with the sunny south bank of the river attracting bars and restaurants.

Eureka extends this regeneration one block in from the river. Fender Katsalidis proposed a single tall tower rather than two 150m ones which would have created a wall and generated unpleasant winds along the waterfront. Wind tunnel testing showed that

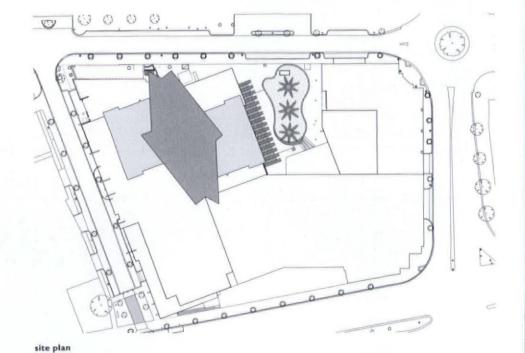




a single tower surrounded by low rise would relieve wind and so make the ground level more habitable.

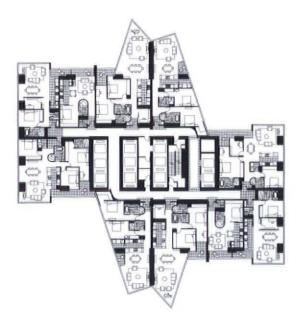
Its form changes in response to its context at different levels. Close to the ground it follows the orthogonal shape of the site and nearby buildings, but from this base rises a crystalline diamond form. Similarly, at high level the structure, which uses the highest strength concrete ever used in Australia, sheds its stabilising fins which double as dividing walls between apartments, opening the possibility of spectacular panoramic views in single apartments. J. M.

Architect
Fender Katsilidis, Melbourne
Structural engineer
Connell Mott MacDonald
Client
Eureka Tower Pty Ltd
Status
Built
Photographs
1, 2, 3, John Gollings
4, David Simmonds

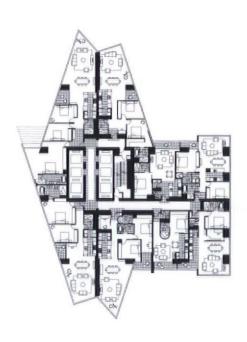


3 Lobby and garden at ground level. 4 Typical apartment, with panoramic Master of the Universe views.

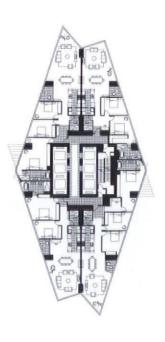






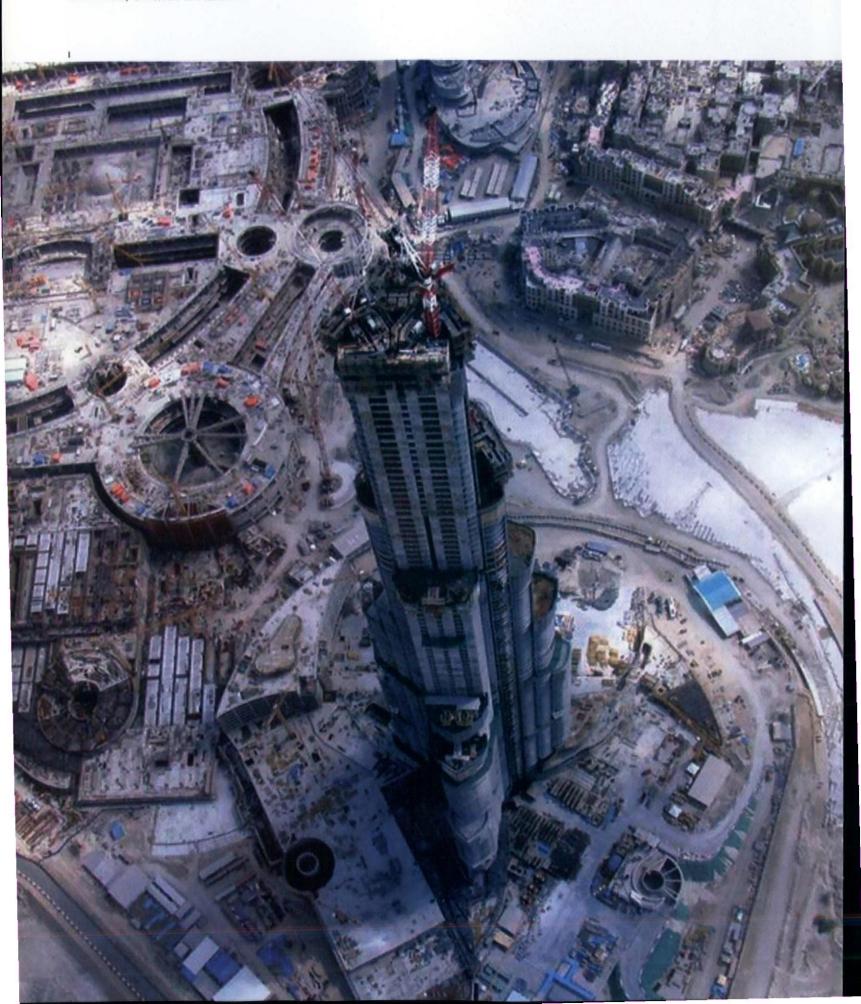


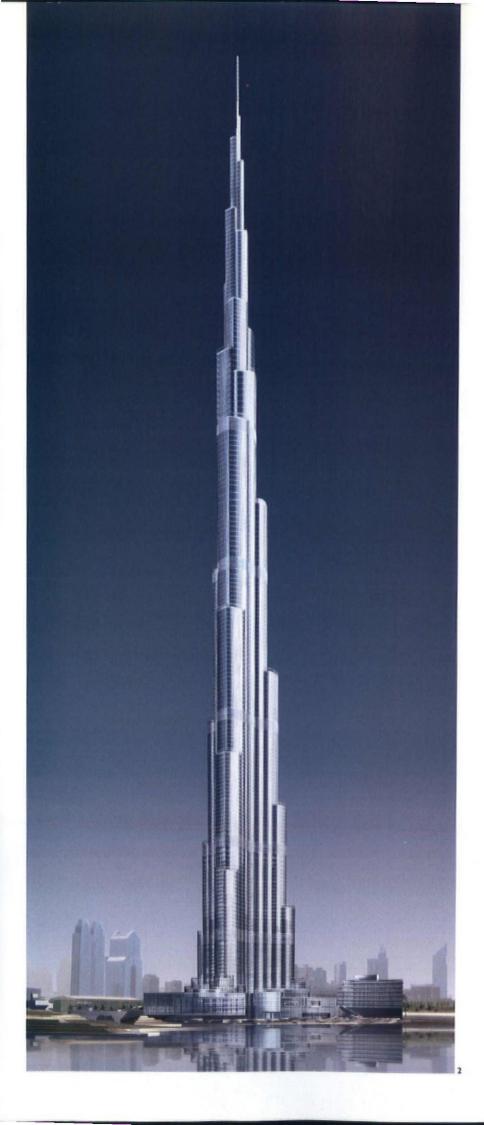
plan levels 57-60



plan levels 66-80

BURJ DUBAI, DUBAI,
UNITED ARAB EMIRATES
ARCHITECT
SKIDMORE, OWINGS & MERRILL





When it's topped out around the turn of the year, Burj Dubai will have more than 140 floors and be the tallest building in the world, but that's about as much as SOM are prepared to reveal about its height. It's part of the mystique that helps to turn a slice of desert into the 'most valuable square kilometre in the world' with the Burj as its centrepiece. The Burj itself has more than a quarter of a square kilometre - 275 000sqm - of floorspace, which achieved an average sale price for its apartments of twice the price of anywhere else in Dubai, 'substantially higher' in the upper levels. Though mainly residential it is vertically layered with an Armani Hotel and serviced apartments at the lower 30 levels above the shopping precinct, apartments on the next 78 and corporate showpiece offices at the highest.

In Dubai nature brings little of the intrigue and subtlety that makes Falling Water or the Itsukushima Shrine so appealing. Human

DUBAI SPIRE

The mantle of the world's tallest building will soon pass to the Burj Dubai, now rising up over the Gulf.

I When complete, Dubai's new landmark will be the tallest building on earth. The sense of scale is truly awesome, as this construction shot reveals.

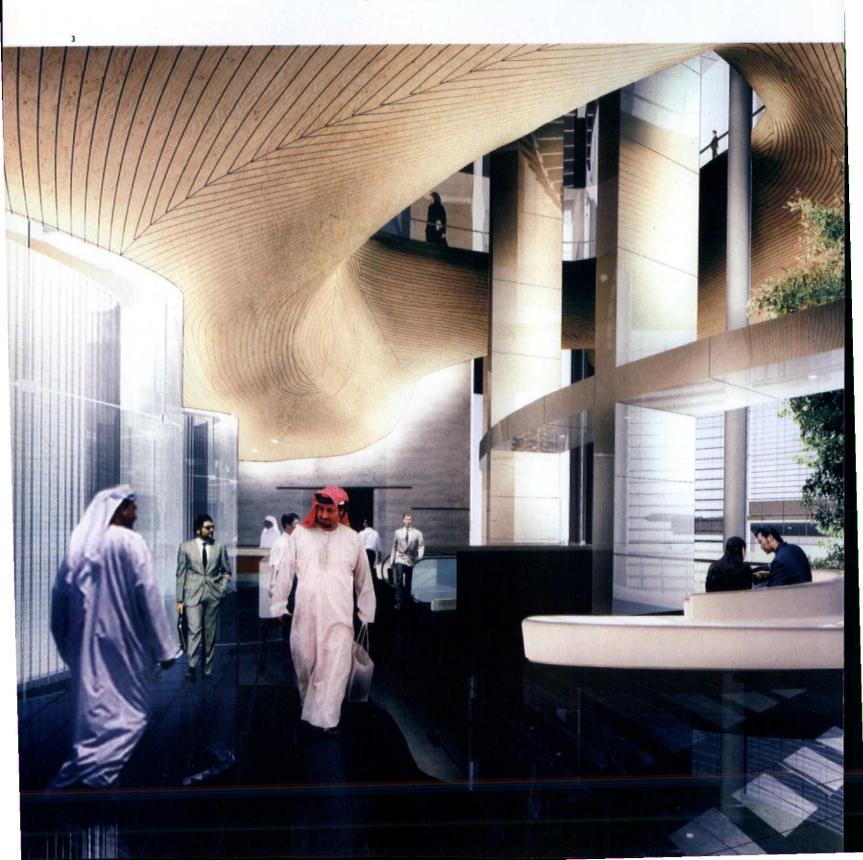
The polished pinnacle.

BURJ DUBAI, DUBAI,
UNITED ARAB EMIRATES
ARCHITECT
SKIDMORE, OWINGS & MERRILL

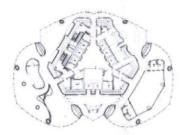
artifice has to create the mystique that adds value which functional efficiency and rationality cannot achieve, and to reach the state that J. K. Galbraith recognised 50 years ago in the affluent society, where there is no meaningful distinction between luxury and necessity. Value becomes subjective rather than objective.

The Burj shows human ingenuity at its extreme, where physical and perceptual qualities seem to merge. Structure is obviously fundamental, and SOM introduce a new system, the buttressed core —

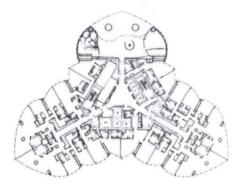
essentially each of the three wings around a central core buttresses the other two. These wings shorten at various heights to give the effect of an upward spiral culminating in a slender point. Its shape emerged in wind tunnel testing with the aim of 'confusing' the wind to avoid pulses that might match the structure's natural frequency, the complex plan form which resembles a desert flower helps to disperse the wind. The result is a myriad of different orientations and shapes to make apartments as individual as possible. J. M.



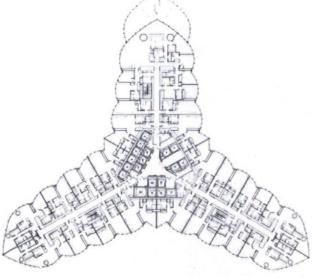
Architect
Skidmore Owings and Merrill
Structural engineer
Skidmore Owings and Merrill
Client
Emaar Properties
Status
Under construction



level 171



level 77





Typical interior.

The spiral form is created by three wings arranged around a core, each buttressing the other.



LE CORBUSIER

history

THE LIFE OF FORMS

'The time of history ... a sea occupied by innumerable forms of a finite number of types.'

George Kubler, The Shape of Time

There is no single key to the enigmatic world of Le Corbusier. As well as being an architect and an urbanist, he was a painter, a sculptor, a writer and a designer of furniture. A founding father of Modern architecture, he was constantly inspired by nature and tradition. His buildings move us directly through their control of form, space, light, material and proportion, but they also crystallise a vision of the world. They are like constructed myths combining utopian visions for the future with reminiscences of an idealised past. Le Corbusier is a figure of vast historical dimensions who presents multiple facets and identities. His realised buildings are but visible fragments of a much larger universe of ideas and forms. His examples remain active and continue to inspire inventions in places remote from the point of origin.

Le Corbusier's buildings communicate before they are understood. Most people who have been to the Chapel at Ronchamp (1950-54) come away transformed by the building's intangible presence, its interior space bathed in dim light, its unfolding convex and concave forms, its magical relationship to the surrounding landscape. Even those who think that they know Le Corbusier's architecture from books or through the astonishing black-and-white photographs of his *Oeuvre Complète* are forced to revise their

opinions when they see the buildings first hand. No photograph or drawing can replace the experience of ascending the ramp of the Villa Savoye at Poissy (1929-31) through different intensities of space, light and transparency. From reproductions it is impossible to grasp how the Capitol in Chandigarh seems to pull the vast Indian sky down to earth and to launch the eye towards the foothills of the Himalayas. This ensemble is both a cosmic landscape and a piece of 'land art' before its time.

To understand Le Corbusier properly it is necessary to find the right balance between the unique order and experience of his works, and the general principles which inform them: there is a constant oscillation between the individual statement and the type. The Villa Savoye, for example, is an inimitable work but it also crystallises the architect's ideas about the modern dwelling and is virtually a demonstration of his 'Five Points of a New Architecture'. The Pavillon Suisse (1931-33) is a student dormitory raised above the ground on pilotis but it is also an urban manifesto like a slice of the collective housing from Le Corbusier's ideal city, the 'Ville Radieuse'. Le Corbusier had definitions for things at all scales - cities, skyscrapers, windows, chairs - in fact the entire range of equipment for modern life. Certain of his formulations, such as the Domino structural skeleton in reinforced concrete of 1914, were fundamental to his architectural language, later becoming part of the collective unconscious of Modern architecture.

The patient search

Le Corbusier referred to his own life as a 'patient search'. In his paintings, his sculptures, his buildings and his urban schemes, he reverted time and again to a limited range of types and motifs which underwent constant transformation as he discovered new combinations of form and content. His creative process seems to have involved a perpetual oscillation between reason and intuition, observation and abstraction. For him drawing was a way to penetrate the spirit of things and to study the principles behind phenomena: clouds, boats, shells, trees, machines, the human body. Particular things captured in sketches would be gradually translated into symbolic motifs and spatial ideas which nourished all of his activities. Painting was a daily discipline through which he probed simultaneously the outer world of the senses and the inner world of memories, images and dreams in search of the roots of form. Le Corbusier hoped to understand the underlying order of nature and, through a kind of abstraction to transform this order into his architecture.

Le Corbusier's art was influenced by major twentieth-century developments, from Cubism to Surrealism and beyond. His debts to Picasso were immense, especially concerning fragmentation, spatial ambiguity and collage. Le Corbusier's visual ideas seem to have worked on several levels at once. His lines could suggest different things simultaneously - musical instruments, bottles, women, landscapes, buildings - but they also possessed a life of their own as hieroglyphs. He stole things from the world and submitted them to alchemical changes, translating them into the stuff of his imagination. A root found on a mountainside would gradually turn into a bull's head in a painting, and would then undergo further transformations in a wooden sculpture or in the profile of a building. A Roman ruin sketched during his youthful travels (the Canopus at Hadrian's Villa) would contribute to the idea of toplit light towers in the Chapel at Ronchamp forty years later. Le Corbusier declared that the past was his only real master but he transformed it in unexpected ways. Metamorphosis was central to his way of seeing, thinking and inventing.

Le Corbusier died in 1965 and since then he has been liberated from the over-simplistic narratives created for him by the early historians of Modern architecture. The original ideological frameworks have slipped away, permitting a much longer and broader view. Immediately after his death there was a temporary eclipse (almost normal) and in post-modernist polemics Le Corbusier was treated as a diabolical figure, supposedly responsible for many of the ills of so-called 'Modernism'. The vast archives of drawings and documents bequeathed to the Fondation Le Corbusier in Paris have permitted the construction of a more complex figure beyond the positive and the negative caricatures. Documents on their own do not guarantee historical writing of quality of course. Needed as well are intelligent questions, interpretations and, above all, insights. Le Corbusier studies include a vast range, from detailed reconstructions of design processes, to monographs, sweeping essays of interpretation, biographical sketches and picture books. The challenge in all this is to avoid getting lost in details and to make a clear overall synthesis which clarifies the architect's intentions and explains the contexts in which he worked.

One method for studying and presenting Le Corbusier is that of the exhibition. The visual material in the archives is extraordinarily rich and hints at the shape of Le Corbusier's creative universe. The most recent major exhibition on the architect, Le Corbusier, The Art of Architecture, provides a historical survey of the architect's work but also develops lateral links between his diverse activities.1 Le Corbusier aspired to what he called a 'synthesis of the arts', which was more than just an aesthetic matter as this was in turn to be a cultural synthesis for the age of industrialism. The exhibition is well supported by a fine selection of original materials all the way from design process drawings, to models, paintings, furniture, books, sculptures and films. There is a selection of photographs by Lucien Hervé who in some ways invented the 'image' of Le Corbusier's late works. The last time in Britain that an exhibition of this size was devoted to Le Corbusier was for his centenary in 1987 - Le Corbusier: Architect of the Century (Arts Council). The supporting visual material was perhaps less rich but the show did more to reveal and explain Le Corbusier's individual architectural projects and the catalogue is still one of the key works of reference.

The need to communicate

Le Corbusier was acutely aware of the need to communicate his ideas through texts and images. He was a prolific author, designed books himself and mastered the art of photomontage. His Oeuvre Complète or Complete Works combines photographs, drawings and texts to record projects but also to demonstrate principles. In effect it was an architectural treatise. Le Corbusier's Vers une architecture (1923) is surely his masterpiece of visual communication, with its unforgettable juxtapositions of Greek temples and cars, and its sermonising tone in favour of an architecture appropriate for the 'Machine Age' yet based upon fundamentals. The book assembled a selection of articles from the review L'Esprit Nouveau and very quickly established itself as a key manifesto of the emerging Modern Movement of the 1920s. The English version came out in 1927, translated by the artist Frededrick Etchells with the somewhat misleading title Towards a New Architecture, and that is the version that has been read all over the English-speaking world for the past eighty years. Unfortunately, Etchell's translation was not always accurate. To give one example: he put 'masses' for the French word 'volumes', which changes the sense. But there are several other significant errors.

All of this was supposed to have been put right in a new translation which came out last year with the somewhat bizarre title *Toward an Architecture* (why not '*Towards*'?) published in the Texts and Documents series sponsored by the Getty Research Institute.² Despite the scholarly machinery, the result is far from definitive. The translator John Goodman has sorted out a lot of the problems but introduced new ones. There are even errors in the translation of colloquial French and in the use of articles and tenses. Goodman has not succeeded in finding an English equivalent to the 'voice' of Le Corbusier. Of course there are many difficulties in translating an artist's pet words and concepts. For example, Le Corbusier used the term 'modénature' which Etchells translated loosely as 'profile





Designs by Renzo Piano for a small building next to Ronchamp, although carefully placed and landscaped, have aroused controversy.

and contour'. But Goodman, after an academic discourse on the subject, serves us up with the unpalatable 'contour modulation'. The new book does at least follow the graphic layout of the second French edition, but then it departs from the page numbering. The whole thing is wrapped in a gaudy jacket which would have made Le Corbusier the book designer turn in his grave. Worst of all, the new translation leaves out a key sentence on the spatial effect of the Acropolis: 'Haute architecture: l'Acropole étend ses effets jusqu'à l'horizon'.

Le Corbusier had noted the way that the Acropolis extends its effects as far as the horizon when he visited and revisited the place every day for a month during his Voyage d'Orient at the age of 24. It was one those fundamental experiences which any artist may have during his formative years, and it haunted him for the rest of his life. He devoted some of his most moving passages in Vers une architecture to the Parthenon, which he referred to as an example of architecture as a 'pure creation of the mind' (although 'the mind' does not capture the full force of Le Corbusier's original 'Vesprit'). He regarded it as one of the highest moments in the history of architecture. Arguably there are echoes of the ceremonial approach and even of the image of a temple in the Villa Savoye at Poissy of 1929. Perhaps there are some connections as well with the Chapel at Ronchamp, not in the forms of course, but in the idea of a sacred hill, an ascending processional route, and a building which addresses the four horizons.

It is precisely because Ronchamp is so linked to its site and surrounding landscape that there is such sensitivity when it comes to building anything else in the vicinity. Renzo Piano's project to construct a small convent for a dozen Clarisse nuns on a slope below the Chapel has excited much emotion and debate, especially as it now seems to have the go-ahead, even from the French Ministry of Culture.3 The client is the Association de l'Oeuvre Notre Damedu-Haut and several parties are involved in the confrontation. The debates are about many things, among them the long-term destiny of a site with universal cultural and historical importance. Piano and the landscape architect Michel Corajoud have attempted to limit the impact of the project by half burying it in the ground and by planting more trees. But this landscaping proposal has been accused of disturbing Le Corbusier's intended views to the horizon with too much vegetation. As it stands, the convent has been moved further down the slope to a place roughly 100 metres from the chapel. But the polemics continue and sometimes seem to be more about who has the right to do what, than about the actual architectural proposal.

The existing entrance to the Ronchamp site is by means of a dismal tarmac car park and an ugly house containing the ticket office. Everyone seems to agree that this area needs improving. Piano has envisaged a new entrance structure nearby with two angled flanges for the roof and intends to plant the parking area with trees. But this structure now raises doubts about the possible commercialisation of the site, especially as Le Corbusier let it be known that he did not want this to turn into another Lourdes. The harshest critics are worried about the sort of 'Disneyisation' which has occurred at the Pont du Gard and suggest that everything be done to preserve the rural peace of a pilgrimage site approached on foot. Regarding Piano's project with equanimity it can be said that his entrance structure seems out of scale and that it risks coming too close to mimicking the forms of Le Corbusier's Chapel

roof. As for the convent itself, this is scarcely Piano at his best. It is very busy in its plan geometry, and the cells with their tilted roofs and strange tube-like light chimneys have been referred to unfavourably as ski lodges half embedded in the soil. On the evidence of the drawings the project is not yet resolved in its architectural expression, as it seems to speak several architectural languages at once. The wisest thing might be to put the whole thing on hold while everyone has a good think about the long-term implications.

All of this relates to a broader problem, which is the preservation of Le Corbusier's buildings and their sites. Some years ago there was the real possibility that the Millowners Association Building in Ahmedabad (1954) would be abandoned and allowed to deteriorate. Now there is the possiblity that it will be cut off from the river Sabarmati, onto which it looks, by a row of tall buildings which may be constructed on an extension of the bank. In effect, this would suffocate Le Corbusier's masterpiece and destroy part of its raison d'être. The pressure on building land in Indian cities is such that the Shodhan House, also in Ahmedabad, is becoming increasingly vulnerable. The Capitol in Chandigarh has open landscape to the north, towards the foothills of the Himalayas, but this land is also under pressure from developers. There was a bid earlier this year to have the entire oeuvre of Le Corbusier certified as international patrimony by UNESCO and this endeavour was supported by the French Minister of Culture, but the bid failed and instead it was Vauban, the designer of fortifications, who got the accreditation. The Ronchamp problem needs to be seen in this universal context. As for the French Ministry, it has apparently transmitted a contradictory signal where the preservation of Le Corbusier's patrimony is concerned.

Naturally, all of this leads to the question: what is the relevance of Le Corbusier's legacy today? When Le Corbusier's buildings were first built they had the force of immediate revelations of modernity. With distance, their role shifted to that of historical exemplars and these have since been experienced, reinterpreted, absorbed, internalised and transformed in unexpected and unpredictable ways. In the process they have been cross-bred with diverse intentions, societal agendas and architectural traditions. Each generation 'finds' its own version of Le Corbusier, usually by projecting its own concerns upon the powerful yet somewhat ambiguous forms which he has left to the world. His works seem to clarify dimly-felt historical imperatives for others, even to address some of the contradictions of modernisation itself. Machinism and nature, modernity and tradition, the universal



The Ronchamp Chapel, umbilically linked to its site and landscape. Photograph: Paul Raftery/VIEW.

and the local (to name some of the recurrent polarities) coexist as forces within a complex structure of thought, feeling and form. It is precisely because they contain these oppositions that Le Corbusier's prototypes can be read in such diverse ways.

Le Corbusier tried to understand the forces and contradictions of the industrial revolution at the scale of city, landscape, even territory. He was a prophet who was also the bearer of the bad news about the price to be paid for progress. He even became a convenient scapegoat as if he were somehow personally responsible for every freeway wrecking a city and every banal housing block. Le Corbusier wished to channel the inevitable into a more coherent urban form where mechanisation, society and nature would achieve a utopian harmony. Understandably, his plans have been criticised for their reductivism, but they may also be seen as theorems or hypotheses which do not need to be taken literally but which force a new way of looking at problems. In so many ways, Le Corbusier anticipated the forces and building types of globalisation. His prototypes, such as the Unité d'habitation in Marseilles (1949), still have many lessons to teach. They may be 're-read' at the level of principles and core ideas then transformed in a critical way: such are the dynamics of a modern architectural tradition.4

The historian who wishes to investigate the impact of a major inventor upon followers can have a field day with Le Corbusier. The results cover the whole range from rich transformations to stale imitations and academic clichés. A broad distinction can be drawn between the letter and the spirit, between those who copy and devalue, and those who dig down to principles and architectural ideas before effecting transformations of their own. Does one need to be reminded that all traditions contain chains of solutions stemming from strong prototypes? Every generation has found some new implications in the Domino idea: tropical transparency with Niemeyer; geological strata with Lasdun; interlocking floors with Koolhaas; hollow tree-like columns with Ito. Or take Le Corbusier's vaulted house type known as the Monol (1919) which formed the basis for the Petite Maison de Weekend (1935), the Maison Sarabhai (1954) and a host of unbuilt projects. This Corbusian formulation, rich in possible rapprochements between the vernacular and the industrial, the modern and the traditional, was later transformed by Balkrishna Doshi into the terms of a 'new Indian architecture', and by Rogelio Salmona into a synthesis addressing issues of local climate and Latin American identity.

It is as if later architects continued lines of research that Le Corbusier had already set in place. Take the question of democratic monumentality, addressed in the state buildings on the Capitol in Chandigarh. One of the central themes of these buildings is the giant protective portico open to public space: an idea fusing reinforced concrete, a response to climate, ancient halls of justice and an image of both strength and availability. Echoes of this idea can be found years later in two major statements of republican monumentality: the Grande Arche de La Défense in Paris (1985) by Spreckelsen, and the masterly Supreme Court in Mexico City (1988) designed by Teodoro González de León (who worked in Le Corbusier's atelier in the 1940s). Or consider the string of works inspired by the Pavillon Suisse which include Tange's Hiroshima Peace Memorial Park (1949-56), Lasdun's Royal College of Physicians (1960) and Stirling's Florey Building (1970). In each case different aspects of the prototype were absorbed then rethought in another personal language. In effect, Le Corbusier has functioned as both 'mirror' and 'lens' for numerous later architects: he has helped them to find themselves while also helping them to define a focus of interest.

This process has continued in the recent past, continues in the present and is likely to continue well into the future. There are contemporary architects whose style is clearly marked by Le Corbusier, some of them of great quality. But there are also architects who have absorbed less visible lessons. Koolhaas probably could not have become Koolhaas without some major doses of Le Corbusier along the way, and Sejima and Nishizawa – often discussed in

LE CORBUSIER AND BRITAIN; AN ANTHOLOGY

Irena Murray and Julian Osley, Routledge, 2008

The impact of Le Corbusier on the English-speaking world is both recorded and reflected in a marvellous compendium of articles published in the UK, gathered together for the first time by the director of the RIBA British Architectural Library, Irena Murray, and the library's special projects librarian Julian Osley.

An excellent introduction by Alan Powers sets the scene for a series of both predictable and unexpected pieces by the great and good of the profession, writers and critics. Lutyens is here, pretty savage, and according to people who worked in the office likely to sack anyone with a copy of Yers une Architecture. More complimentary pieces, by the editor of The Architectural Review among others, are spliced with critical or at least sceptical pieces, by writers including Eyelyn Waugh, Herbert Read, Miriam Wornum and John Summerson.

The really savage stuff comes towards the end of the volume, where polemicists such as Christopher Booker pile on the vitriol, and try to blame everything from the destruction of the European city to urban riots on the works and ideas of the Great Man. Gavin Stamp provides welcome balance, with a wonderful quote from the architect Sam Webb, himself involved in the campaign to demolish defective residential tower blocks. He is quoted as saying that blaming Corb for failed tower blocks is like 'blaming Mozart for Muzak'.

There is a wealth of writing to dip into here, even though Corb produced no building in the UK, his design work being confined to the Venesta stand at the 1930 Building Exhibition, London. James Stirling's brief excursion into criticism, via the AR, is here, as are longer pieces by Colin St John Wilson and Lionel Brett. Martin Pawley is in attack-dog mode, Louis Hellman more thoughtful.

Corb's death prompted articles by Basil Spence, Walter Segal, Philip Powell, Jane Drew and Peter Yates, with Reyner Banham producing a brilliant critical analysis, all too prophetic about the likely trajectory of Corb's future image: 'The writers of Le Corbusier's necrologies have seemed determined, by their vacuity, sentimentality, name-dropping and ignorance, to produce a reaction – when it comes – so explosive and disastrous that the reputation will be destroyed finally and forever'.

What Banham predicted came to pass, but a resurrection is evidently under way; this book is part of that story. PAUL FINCH

terms of minimalism and Japanese tradition - seem addicted to the Corbusian 'free-plan'. Sometimes the deepest reinterpretations of a work lie at the level of intangibles such as poetic presence. Frank Gehry has revealed that Ronchamp was one of the inspirations which enabled him to discover his true path (along with the cathedral of Chartres). But it turns out that Tadao Ando has said the same thing (along with the void and light of the Pantheon in Rome). One can scarcely imagine two more different architects, each of them inspired by the contrasting aspects of the same building: one in the direction of sculptural curves, complexity and dynamism, the other in the direction of light, space and silence. Such is the power of a major work to stir the emotions and the imagination through the direct experience of architecture. Shortly before he died, Le Corbusier wrote a piece entitled 'Nothing is Transmissible but Thought' in which he reflected upon his legacy. For him, buildings themselves were materialised ideas. Le Corbusier's prodigious architectural forms continue to hold our attention because they have the power to transmit through time. WILLIAM J. R. CURTIS

William J. R. Curtis is the author of several books including Modern Architecture Since 1900 and Le Corbusier: Ideas and Forms. His most recent publication is Structures of Light, a catalogue of an exhibition of his own photographs at the Alvar Aalto Museum in Finland.

The exhibition, by Vitra Design Museum in collaboration with the Netherlands Architecture Institute and the RIBA Trust, opens in Liverpool, at the crypt of Liverpool Metropolitan Cathedral, on 2 October until 18 January 2009, after which it moves to the Barbican, London.
 Le Corbusier, Toward a New Architecture, translated by John Goodman, London: Frances Lincoln, 2008.

^{3.} For proposal by Piano see www.rpbw.com. The petition against the Piano project ('Pour la sauvegarde du site de Ronchamp') can be found at http://ipetitions.com/petition/Ronchamp. The petition in favour of the Piano project can be found at http://ipetitions.com/petition/rehabilitationronchamp

^{4. &#}x27;Transformation and Invention: On Re-reading Modern Architecture' by William J. R. Curtis (AR March 2007).

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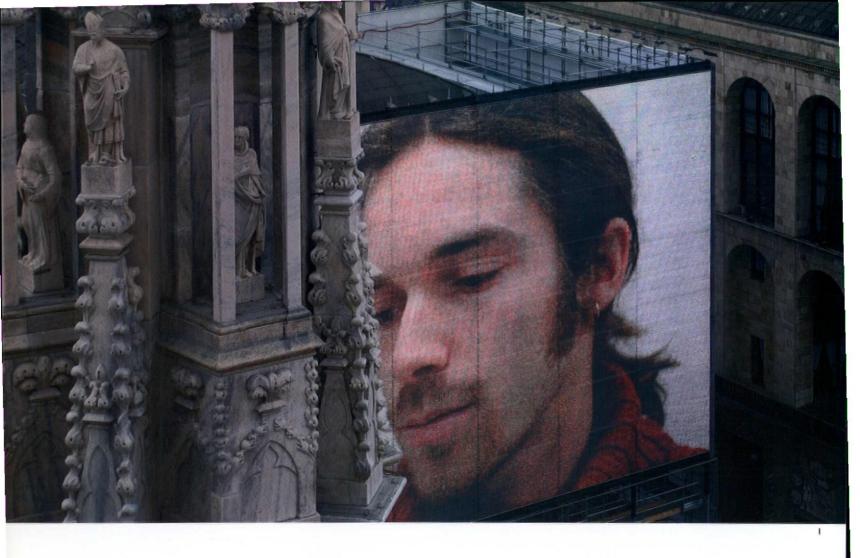
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Milan élan

Milan's civic heart is animated by an elegant and ingenious new kind of big screen made of woven metal mesh. For more information go to www.arplus.com/eng.html.

In Blade Runner, that famously dystopian vision of the future, the Los Angeles cityscape is transmuted into a blizzard of images by pulsating light screens. As cinematic speculation is gradually overtaken by reality, supersized media facades are now a common spectacle in most big cities, pumping out adverts, video clips and assorted streams of consciousness. Milan can now claim to have the most supersized in Europe, set in the shadow of the Duomo, the city's brooding Gothic cathedral, where stained glass originally used to do the job of bringing messages from a higher power to the masses.

God and Mammon now duel with each other across the Piazza del Duomo. The new interloper capitalises on a lengthy programme of refurbishment taking place in the nineteenth-century Palazzo Dell'Arengario, the former city hall. The works necessitated covering the building in a carapace of scaffolding which provided an accommodating support structure for a media facade. Local agency Urban Screen devised the idea

of putting the scaffolding to use for the duration of the work, so the screen will remain in place for at least a couple of years.

Measuring 480sqm, Milan's media facade is not a conventional rigid LED screen. Rather, it is a flexible 'carpet' formed from lightweight stainless-steel mesh with integrated LED profiles. Manufactured by German woven metal fabric specialists GKD (Gebr Kufferath AG), the Mediamesh® forms a diaphanous veil, a mere 25mm thick, that allows glimpses of the building behind. This concept of a lightweight and partially transparent screen was developed by ag4 media facade GmbH, a Cologne-based company that combines the expertise of architects, engineers and media specialists to develop elegantly integrated solutions for media facades.

The screen is made up of eight vertical mesh panels, each measuring $16.54 \times 3.64m$. Despite its size, each panel can be rolled up, like a carpet. LED profiles are set in slim, cylindrical units at intervals of 500mm. The units form part of the weft



New and old – the new screen is in the shadow of Milan's famous cathedral.

Screen takes advantage of refurbishment works to the Palazzo Dell'Arengario. The scaffolding forms the support structure.

The lightweight mesh has a tantalising degree of transparency, allowing you to apprehend the building behind.

Detail of LED units integrated into mesh.

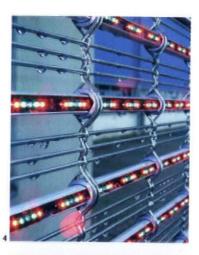


Detail of screen.

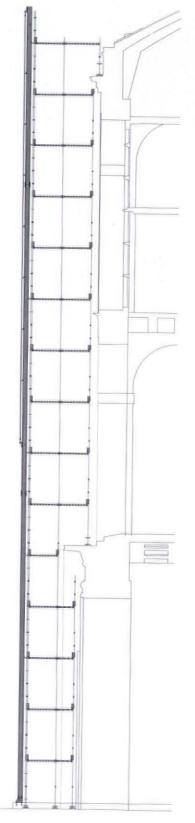
(horizontal weave) of the mesh and individual LEDs can be easily removed and replaced for maintenance, a task facilitated by the permanent scaffolding. Visual resolution is 194,000 pixels which gives pin-sharp picture quality, even at such a huge scale. The LEDs are connected by an unobtrusive cabling system concealed in the edges of the mesh. Power and data are fed to the screen via individual control units on each floor of the building and these are connected to a central server in an adjacent temporary site hut.

The scaffolding substructure not only absorbs the considerable tensile force of the installation, but also allows the individual mesh panels and LED profiles to be adjusted to the millimetre, so ensuring that the projected images are consistently distortion-free, even under intense wind loads. LEDs are controlled by photosensors so that the brightness of the screen can respond to local conditions. Power consumption is very low, however, and because of the inherent robustness of the components, maintenance is minimal. Both the mesh screen and the LEDs are capable of withstanding extremes of weather and temperature, from -20 to +70 degrees Celsius. Since its opening in December last year, the facade has become a popular fixture in Milan's cityscape. As well as information, films, concerts and advertising, it has also broadcast Papal blessings and football matches, both quintessential aspects of Italian life, C.S.

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Corus

The new fire station in Ashton-under-Lyne, Manchester has used Corus Colorcoat HPS200® in Goosewing Grey as part of a Euroclad SF500 roofing system. The Corus product has now been superseded by Colorcoat HPS200® Ultra which offers an exciting colour range and improved colour and gloss performance. Colorcoat HPS200® Ultra comes with the Confidex® Guarantee: the longest, most comprehensive guarantee for prefinished steel products in Europe, with up to 40 years' cover. The building has achieved a 'very good' BREEAM rating.



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Sarnafil

The roof on the first Maggie's Centre in England at London's Charing Cross Hospital has won Robseal Roofing the prestigious single ply category in the NFRC's Excellence in Roofing Awards 2008. Robseal chose Sarnafil membrane for this challenging open specification roofing project. The roof has a series of geometrically spaced diamond shapes and triangular openings cut completely through the roof structure. The Sarnafil G410-12ELF fully adhered membrane in Lead Grey met all the required criteria in terms of flexibility, aesthetics and design parameters.



903 www.arplus.com/enq.html

WACO

Reaktor is part of the exciting new range of WACO products from Whitecroft Lighting. Reaktor is a suspended luminaire with an integrated aluminium reflector masked by a translucent polycarbonate cylinder, that is ideal for entrance and atria lighting. It is available with a variety of energy efficient light sources with options for dimming and emergency lighting, as well as a version with the addition of RGB LEDs, to adapt the colour of the body to create a dynamic environment.



904 www.arplus.com/enq.html

Altro

Altro, leading manufacturer and supplier of interior surfaces, has pioneered the world's first safety flooring recycling system. The process will divert waste from landfill and further increase the recycled content and sustainability of its flooring products. Previously, it had seemed almost impossible to recycle safety flooring, due to the abrasive nature of the aggregates which give the flooring its non-slip durable qualities. The new system breaks down waste flooring and separates it into component parts, which are then recycled back into safety flooring.



905 www.arplus.com/enq.html

SKL

Hotel and leisure industry lighting specialists SKL has launched Roxo, a stunning chandelier. The curvy, intense purple flock finish and complementary purple glass arms were designed to catch the imagination. Roxo is 950mm high and 750mm wide and incorporates eight purple glass arms that undulate and reflect their colour in the illumination produced by its 40W ses lamps. The elongated chrome lamp holders highlight the elegant appearance of the chandelier. For anyone wishing to create an interior theme, Roxo is also available in a twin wall light version.



906 www.arplus.com/enq.html

Junckers

The floor is the basis of any interior, underlining the overall impression. With Reflection, Junckers has reinterpreted one of the strongest trends for autumn/winter 2008 and created a range of wooden floors that are expressive, beautiful and unique – the world's first metallic-look solid hardwood floors. Reflection is Junckers' latest addition to the Soul+Collection concept that offers an extensive choice of colours and finishes. On natural, solid hardwood, the Reflection floors have a subtle sheen lacquer like mother of pearl.



907 www.arplus.com/enq.html

Levolux

Even in the testing conditions of a major scientific laboratory, Levolux's solar shading solutions can keep their cool. A series of attractive and energy efficient Aerofoil Fins have been fitted at the UK-based research HQ of Victrex, in Lancashire. The company is the market-leading provider of PEEK-based polymers to medical device manufacturers. As part of a major refurbishment project at its HQ, nearly 30 of Levolux's acclaimed Aerofoil Fins were integrated beautifully with Wilson Mason Architects' exterior design to completely screen the front of the building.

reviews

WHAT AREWORDS WORTH?

CRUCIAL WORDS – CONDITIONS FOR CONTEMPORARY ARCHITECTURE

Edited by Gert Wingårdh and Rasmus Wærn. Basel: Birkhäuser. 2008. £19.90

Crucial Words—Conditions for Contemporary Architecture is not to be mistaken for an architectural dictionary, of which many examples abound. Instead, the editors of this volume have invited 31 short essays from distinguished scholars in architecture, critics, writers and curators, to examine single-term concepts with architectural implications through a narrative commentary.

Each concept-word and its responding essay presented in the volume range from terms distinctly architectural, such as 'ornament', 'formalism' and 'body', to the architecturally extrapolative such as 'desire', 'everyday' and 'atmosphere'. In extending their range of concept-words to be examined beyond the immediately architecturally charged, the editors have attempted to span not only concepts relating directly to what traditionally is seen to belong to the architectural domain, but concepts also that have potential and vital import on the imagination by which the architectural might be pursued. In doing so, the editors have attempted a compilation that invites the reader to think about possible architectural implications extrapolative of the

concept-words, rather than presenting them with a definitive explanation of them.

With the essays responding to each conceptword being ordered in an alphabetical sequence, the editors clearly discard any notion of hierarchy of one concept-word's importance over the other. Instead the volume functions as a record that can be listened to from any point forward, or in the case of a book, read in any sequence, dipping in to the offering first here and then there as one's interest might dictate.

Although the subtitle states 'Conditions for Contemporary Architecture', the editors have not attempted in their introduction to explain the rationale for how the concept-words chosen for each essay commission relate to such 'condition', or what indeed that condition might be. In failing to do so, the chosen concept-words' relevance to the 'contemporary' is ambiguous, subjective and unjustified. Perhaps it would have been more appropriate to begin with a critically leveraged essay on 'conditions for contemporary architecture', and then extrapolate terms from such an essay for subsequent narrative commentary and examination. Without doing so, the volume lacks criticality and depth.

Despite the above criticism, the volume nonetheless suffices as a useful tool for undergraduate students seeking to expand their thinking on issues architectural from varying, and perhaps not so obvious, points of approach, and for that it can be commended.

DANIEL PAVLOVITS

THE NUMBERS GAME

THE ENDLESS CITY

Edited by Ricky Burdett and Deyan Sudjic. London: Phaidon Press. 2008. £35

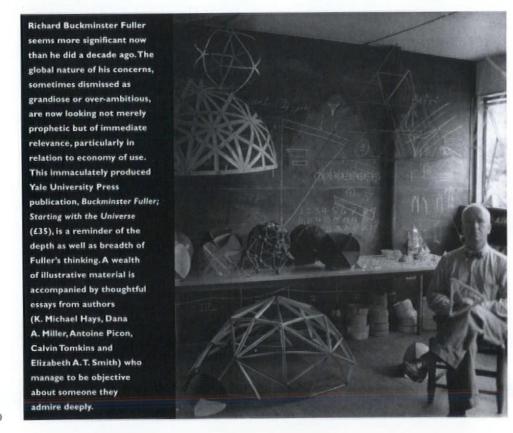
Numbers, numbers, endless numbers – or so it seems on first inspection of this weighty tome. Certainly this is not your typical coffee table archiporn opus edition but the editors (Ricky Burdett, professor at the LSE, and Deyan Sudjic, director of the Design Museum) could hardly be accused of lacking ambition. The aim of this book is to establish a new manifesto which will rescue our ailing cities from an imperilled future. The rise and rise of the mega-city (accommodating over 10 million inhabitants) is a global phenomenon but changing demographics have spawned burgeoning megalopolises and threatened long-cherished ambitions to secure democracy and a sustainable, inclusive future for us all.

Anyone who visited the 2006 Venice Biennale for Architecture will be familiar with much of the material from Città, Architettura e Società. This sprawling assemblage was re-edited for Tate Modern's Global Cities exhibition last year and now culminates with the publication of The Endless City. This huge 512-page book is the print companion to the Urban Age Project organised by the LSE and Deutsche Bank's charitable Alfred Herrhausen Society. This high profile research project entailed six conferences in six international cities - New York, Shanghai, London, Mexico City, Johannesburg and Berlin in 2005-2006. Each conference had an eclectic mix of key policy-makers, academics and architects in an effort to break down professional barriers and engender a fresh approach to the pressing problems of the expanding city. Attendance was by invitation and the delegate list included receptive politicians such as the German Chancellor and President of Mexico.

The book employs conjecture supported by statistical analysis and dissects the various challenges and strategic thinking shaping each of the six cities. Issues are further explored in 14 invited essays from commentators such as Richard Sennett, Rem Koolhaas and Alejandro Zaera-Polo on a diverse range of topics including authenticity and taxonomy.

Researchers predict that by 2050 some 75 per cent of the population will be living in cities. Can such vast conglomerations accommodating the crowded masses be anything more than dystopian money-making machines? Is it sheer indulgence to talk of aesthetics when so much of humanity still endures a slum existence? Anyone interested in such issues will find more than mere numbers in *The Endless City* and it should become required reading for all concerned individuals.

MARK COUSINS



GOTHIC EXPOSITION

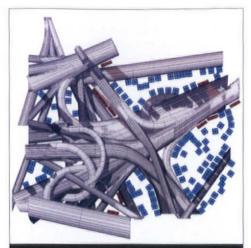
UNIVERSE OF STONE: CHARTRES CATHEDRAL AND THE TRIUMPH OF THE MEDIEVAL MIND

By Philip Ball. London: The Bodley Head. 2008. £20

This reviewer wishes that the word 'iconic', like 'fantastic', would be given a rest: they are being badly mis- and over-used, and when he saw 'iconic' (in relation to Chartres Cathedral) on the wrapper of this book under review, his heart sank. Mercifully, however, the text of the book itself flows well, although the author confuses his architectural terms to an irritating degree: 'pillar' is used when either 'column' or 'pier' would be correct, and there are other infelicities. Numerous half-tones were taken with cameras that did not have facilities to correct vertical distortions, so should have been rejected, and their murky, grey, amateurish quality does the book no favours.

Ball's expositions of Gothic, its meanings, its structure, and so on, tread for the most part ground that will be familiar to students of medieval architecture, and a certain amount of déjà vu was experienced when reading his prose. However, he avoids some pitfalls, and is justifiably critical of the work of Paul Frankl (1878-1962), who does not seem to have known much about construction, and whose Hegelian stance led him to the unfortunate conclusion that each great Gothic cathedral was a 'correction' of another, and that the 'final solution' (forsooth) of Gothic perfection could be found in Germany. Ball is also sceptical about the so-called 'notebooks' of Villard de Honnecourt (fl.c.1220-40), only about a sixth of which are devoted to architectural subjects: there is not a shred of evidence that Villard was a trained mason. Claims by the late Sir Nikolaus Pevsner (1902-83 - in his An Outline of European Architecture) that Villard was an architect and that his mixed bag of drawings was a 'textbook' 'invaluable as a source of information on the methods and attitude of the 13th century' are absurd: to anybody who actually knows how medieval buildings were constructed, suggestions that Villard's portfolio is a sort of encyclopaedia of architectural knowledge revealing secrets of stereotomical practices of the Gothic period are quite untenable, for the drawings would be virtually useless to anyone engaged in making a Gothic cathedral.

Ball includes diagrams showing certain design and construction principles, and he has picked up on the fact that Gothic ribs (which some have considered evidence that Gothic architects expressed structure thereby) did not always support the webs: there are cases where the ribs have fallen away, yet the webs stay up. Indeed



Bringing the world of Metropolis and The Fifth Element into the twenty-first century, Skycar City, A pre-emptive history is a brilliant conceit. It is choreographed by Winy Maas of MVRDV and Grace La of the University of Wisconsin-Milwaukee, which has published the book with the help of funding from the Marcus Prize programme, which also supports a studio in the architecture school (the book is available via Amazon at just over £20). Partly drawing on the work of students from the studio, run by Maas and La, the book examines the proposition that the urban infrastructure of future cities would embrace 'cars that fly', moving silently in non-polluting trajectories between buildings. This has implications for architecture as much as car design. Describing the results as history rather than proposition adds to the fun.

ribs were probably used as much to cover bodged joints, and to give a certain aesthetic continuity to vertical lines, as to provide a structural skeleton to be filled in with the webs.

Universe of Stone is a sensible read, well-argued and wisely sceptical of the pure art-historical approach from which practical knowledge has been expunged. JAMES STEVENS CURL

UNCERTAIN PROGNOSIS

CHANGING HOSPITAL ARCHITECTURE

Edited by Sunand Prasad. London: RIBA Publishing. 2008. £45

The title Changing Hospital Architecture could be construed as a call to arms or the study of an evolving building type (or ideally both). This book was long in the making (indeed Sunand Prasad was not its commissioning editor) and in that time there have been many developments. The book is a collection of eight essays which deal with the history and the current design of hospitals in the UK, Europe, USA and Australia. The four set in the UK deal with the post-war history of hospital

design and commissioning, the architecture of the current hospital programme, the financing of this public and private investment and finally the application of current workplace design to healthcare. By far the best is the introductory essay by Derek Stow on the evolution of the NHS and hospital design. These are complemented by comparative studies of current work in the US, Europe and Australia.

Unfortunately, the book is less than the sum of its parts - the essays are written by practising architects and a financier, who were commissioned, it would appear, without a clear brief or guiding thesis. As a consequence the completed work does not have a unifying narrative to bind the chapters together and does not provide rigorous appraisal or design polemic. There is too much detail in the case studies that bulk up many of the chapters and too little explanation and analysis. Design methodologies for changing and improving the architecture of the hospital are not discussed. Since the book was not conceived as a design primer or is illustrated as a picture book, I fear that it will struggle to attract a general readership or serve as a reference work for healthcare architects. It will serve, however, as a historical postscript to the last 15 years of insufficiently considered hospital development. This is doubly disappointing. There is no building type more in need of an intelligent and cogently researched reappraisal than the hospital. Nor could any sector benefit more from a passionately argued case for better design than healthcare architecture.

Each of the essays which deal with the UK is illuminating but there is significant overlap and repetition in both the case studies and the potted histories and sociology which start each chapter. The case studies are classified as conforming to one of eight basic design types yet there is no comparative evaluation of these or an attempt to propose new models that might respond to patient expectation and good workplace design. This section would have benefited from a single author who might have integrated an examination of the changing politics and sociology of health with an exploration of the design possibilities of this building type, complemented by international examples and delivered with feryour.

The recent buildings for Moorfields, St Thomas (Evelina) and ACAD have gained public and professional acclaim and taken their place within the architectural mainstream. It would be interesting to examine why they succeeded where others have failed and use their genesis as a model for achieving greater design excellence.

JOHN COOPER

These and other AR book reviews can be viewed at www.arplus.com and the books can be ordered online, many at a special discount.

reviews



New prototypes for the prefabricated house on show at MoMA - but are they irrelevant follies?

HOME RUN

The prefab house comes under scrutiny at New York's MoMA.

In 1949, Marcel Breuer built an elegant, butterfly-roofed, cedar-clad house in the garden of the Museum of Modern Art (MoMA) in New York. The commissioning of the house was prompted, so the story goes, by the appearance of a different kind of 'show house' on a vacant lot just a few blocks away. The Lustron House was a simple bungalow, traditional in form but prefabricated, with a steel frame clad in vitreous enamelled steel panels. It was decidedly nonarchitectural, but it was attracting favourable media coverage and long queues of potential buyers. Philip Johnson, then curator of architecture at the museum, decided that Architecture needed to fight back. The Breuer House was his chosen weapon.

MoMA's current chief curator of architecture and design, Barry Bergdoll, has recreated this confrontation by juxtaposing a huge photograph of the Breuer House with an actual, salvaged and restored Lustron House. Therein lies the subtext of this exhibition. On the surface, it offers a straightforward history of the prefabricated house, plus five new houses to represent the latest developments. But

underneath, it hides the yawning gulf that divides the culture of architecture from the culture of popular housing.

Apart from the Lustron House, non-architectural popular housing – including important developments such as the mail order houses of the 1920s, the Quonset Huts of the 1940s, and the ubiquitous balloon frame – is represented in the exhibition only by easy-to-miss, passing references. This is MoMA, bastion of the architectural elite, and its version of history is massively biased towards famous names, from Walter Gropius to Richard Rogers, even though most of their projects and prototypes



Detail of Burst House by Edmiston and Gauthier.

were, commercially and industrially, either failures or non-starters.

Not that the exhibition isn't interesting. An astonishing quantity of historical material has been assembled and beautifully presented in a variety of media: films, photographs, toys, models, catalogues, patent applications, original working drawings and so on. It's unmissable, but it's also misleading. This is not a true history of the prefabricated house because, for one thing, it completely ignores the mobile home and its modern descendant the 'manufactured home', which accounts for about 30 per cent of suburban house starts in the United States. While the architects have been amusing themselves with projects and prototypes, the manufactured home industry has been getting on with the job, building tens of thousands of real affordable prefabricated houses every year. Why has it been excluded? How can this be justified? The omission was no accident - Bergdoll is too good a historian for that, as his otherwise useful, densely referenced essay in the catalogue demonstrates. The truth is that the manufactured home and its trailer park forebears just don't have the necessary social and architectural credentials to make it into a MoMA exhibition.

Talking of architects' prototypes, the other part of the exhibition displays five of them on the vacant lot next door, soon to be occupied by Jean Nouvel's extension. They are a curious bunch, chosen for variety rather than to illustrate any particular theme. Digital manufacturing is represented by two completely different approaches, both using plywood: Larry Sass and his team at MIT have built a weird replica of a New Orleans shotgun house, while Jeremy Edmiston and Douglas Gauthier have gone for the freeform, rough-and-ready option with their Burst House. Europe is represented by a couple of modular boxes: Oskar Leo Kaufmann and Albert Rüf's super slick System3, and Richard Horden's Micro Compact Home, which is no bigger than a railway sleeper compartment (don't ask the cost per square metre). Finally, and most believable, Kieran Timberlake's Cellophane House combines an Erector Set-like aluminium frame with a variety of modern transparent and translucent materials in a tower house, which is useful for viewing the other exhibits.

They are all interesting, of course, but one can't help feeling that another five architectural prototypes is just not what we need at this time of energy crisis and credit crunch. An opportunity has been missed. The Breuer/Lustron juxtaposition in the gallery upstairs is far too subtle. I have a suggestion: invite a manufactured home company to place a show house among the architectural prototypes, then stand back and let battle commence. COLIN DAVIES

Home Delivery is at MoMA, New York until 20 October

browser

Sutherland Lyall takes a break from being mellow and fruitful to go surfing.

The big Gang show

I'm not sure why architects feel they have to put mug shots of everybody in the office on their websites. Calling in a photographer with kit and screens and lights can cost. So a lot of practices ask the help to bring in cheap photo-booth portraits of themselves. Turned into rapidlyloading black and white images and arranged in the usual grid, staff mugshot pages often end up looking like a contact sheet of prisoners on death row. As on Jeanne Gang's Studio Gang site at www.studiogang.net/site/projects_e1.htm. Where, I'm sure, the intention was actually to make the staff feel valued. That's all there is to cavil about on this site of big pictures of, often, big buildings. They start off as a grid of thumbnails on the right, classified under building types. Click on a thumbnail and up comes a set of pictures - filling the whole right-hand half of the screen. Impressive. You can also get at the images by clicking on a list on the left where the accompanying simple and descriptive text is located. Functional redundancy. And that's it apart from random images of a cheerfully messy studio. Big breezy and nicely straightforward.

Marie Celeste or what?

Back in March I got stuck on Propeller-z's rotating logo at www.propellerz.at. Never say die, recently I tried it again and lo, I could enter the Vienna practice's site. The black background solidified, the music began its fast rhythmic beat and the strangeness started up. Propeller-z's web designer confines all activity to a rectangle in the middle of the screen divided into three: the top big rectangle tends to have images in it with a sliding translucent vertical blue strip carrying clickable details. The long thin rectangle underneath holds text details and the small square at the right-hand bottom corner has a series of enigmatic shapes whose position you can control using the mouse. No, I don't know why but it gives you something to do. Underneath the main rectangle you can click on 'projects'. The work, of which there's not a lot, is really interesting. There's a pdf download in the 'about' section that starts off with a Propeller-z-designed card game and runs through an alternative version of the practice's work which sort of stops around 2006. Is this a Marie Celeste site? Did they bail out silently into the architectural Sargasso leaving their dinner plates untouched. Maybe someone can tell us - and about who's paying the site rental charges and

Print to digital segue stuck

Back in 2005 I was a tad scathing about how you had to subscribe \$160 for the fortnightly print version of the Architect's Newspaper, www.archpaper. com, and how the Eavesdrop gossip column, one of the things you could get at on-site, was a tasty read. Today, price to we foreigners hasn't changed, you can still read a nicely judged selection of articles but Eavesdrop is now anything but scabrous. People in my trade are rarely impressed by editorial boards. Not so in the US for there are a couple of dozen luminaries on each of the two boards (one for California, the other the US north-east). Happily they include our own Peter Cook and expat Situationist expert, Simon Sadler. I half expected that the general pressures in favour of being free might have had an effect on this enterprise but extracting enough dosh from the Web to support an impressive editorial establishment is not easy.

Soft soap

Here's one from Living Architectural Treasure, the indispensable Eric Morehouse. It's the site of Australian practice Collins and Turner at www. collinsandturner.com. It starts off with a grey backgound, four small sans-serif headings at the top left: 'architecture', 'collins and turner', 'contact us' and 'publications'. And ... a slide show. But wait. Don't turn off, this is a slide show of drawings. What do architects fundamentally do? They draw buildings. And that is exactly what the site is doing. Admittedly the images are static but the pace of image change is brisk enough for you to half imagine that the architects are drawing for just you. Clever. No they're not fantastic drawings, the sort of thing you have in your A4 notebook. But the roughness is a kind of anti-arrogance. Messrs C and T are opening themselves up, revealing the contents of their secret doodle pad and sort of inviting you to join them. OK that sounds a bit like analyst-babble. But maybe there's something in it because you end up feeling quite good about them.

Burning Chrome

We just had to use Google's brand-new Chrome browser for this column instead of Internet Explorer's rival Firefox. Chrome is blindingly fast and is tightly integrated with the Google search engine: the address box makes no distinction between generic search topics and specific site addresses. Can't not like that.

Take up the cushions

To be honest I'm not sure what this has to do with architecture apart from the heading on the home page: 'Archisuits' www.insecurespaces.net/archisuits.html, but, as a colleague who sent it to me said, 'it's so daft, I really like it.'

Sutherland Lyall is at sutherland.lyall@btinternet.com

diary

AR'S CHOICE OF INTERNATIONAL EXHIBITIONS FROM WWW.ARPLUS.COM

GERMANY

READY FOR TAKE-OFF. CONTEMPORARY GERMAN EXPORT ARCHITECTURE Deutsches Architektur Museum, Frankfurt Until 9 November

This DAM show represents the 2007 German contribution to the VII Architecture Biennial in São Paulo, and attests to the steady demand from abroad for the skills of German architects. Some 16 architectural offices and their respective engineering partners are featured here, all busily exporting their talents to other countries. www.dam-online.de

UNITED KINGDOM

DESIGNERS IN RESIDENCE

The Design Museum, London Until 27 October

Held annually, the Designers in Residence initiative invites a group of emerging designers to transform different areas of the museum with their work. This year's invitees – Tom Drysdale, Matthew Falla + Lea Jagendorf, Jethro Macey, Adrian Westaway + Ben Storan, Freddie Yauner and Sarah Angold – have all been chosen for their offbeat, experimental approach to design. Each will create installations responding to notions of collecting

www.designmuseum.org

and collections.

LE CORBUSIER – THE ART OF ARCHITECTURE
The Crypt, Liverpool Metropolitan Cathedral
Until 18 January 2009

The Big Corb Show finally touches down in Giles Gilbert Scott's crypt as part of Liverpool's cultural annus mirabilis. Explore the Career and the Legacy in the first major Corbusier exhibition on British soil for over 20 years. An array of drawings, models, paintings, furniture, photographs and films aim to dissect and reveal the man behind the myth. www.riba-london.com

UNITED STATES OF AMERICA

ATELIERS JEAN PROUVE Museum of Modern Art, New York Until 30 March 2009

With all the hooh-hah surrounding today's digital manufacturing technologies, it is sobering to reconsider an earlier era of more craft skilldependent, workshop-based mass-production, as practised by the pioneering Jean Prouvé. With a skilled creative team and access to the most au courant manufacturing technologies, Ateliers Jean Prouvé were fertile laboratories where ideas were refined and adapted to produce furnishings and prefabricated buildings on an industrial scale. This New York show focuses on the evolution of the 'Standard' Chair and includes other examples of furniture and buildings that demonstrate Prouvé's radical approach to construction and his sensitive handling of materials, especially sheet metal. www.moma.org

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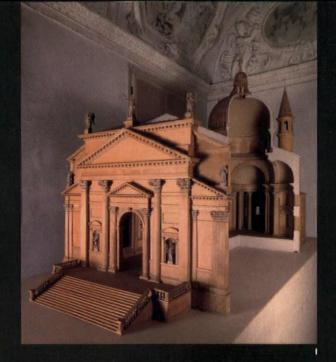
delight

To look at Andrea Palladio's drawings brings you so tantalisingly close to the hand and mind of a great master of architecture that HE is your guide. You can hear his thoughts on Roman ruins, through his measured drawings and sketches, in the revelation of their echoing emptiness; in the elevation of the everyday, always with a grounded sense of practicality, in his villa studies; and in the intense distillation of a shared world view in the later Vicentine and Venetian projects. We owe the RIBA's extraordinary collection in large part to Inigo Jones who instigated their purchase to bring them from Italy 35 years after Palladio's death. The Centro Palladio Vicenza began to commission its 1:33 scale models for the exhibition designed by Franco Albini in the Basilica Vicenza in 1971, these were shown in the Arts Council exhibition at the Hayward in 1975.

Bringing the drawings, models and Treatises together to celebrate the 500th year of his birth (1508) is an obvious thing to do. The Royal Academy of Arts has arguably the best spaces in London to do it in and so following the opening in Vicenza the exhibition will come to London at the end of January 2009. As for material substance it is interesting that it came as a shock to James Stirling that Palladio, constrained by budget but also by choice, built mainly in rendered brick — simple means with imagination to the most sophisticated and beautiful ends.

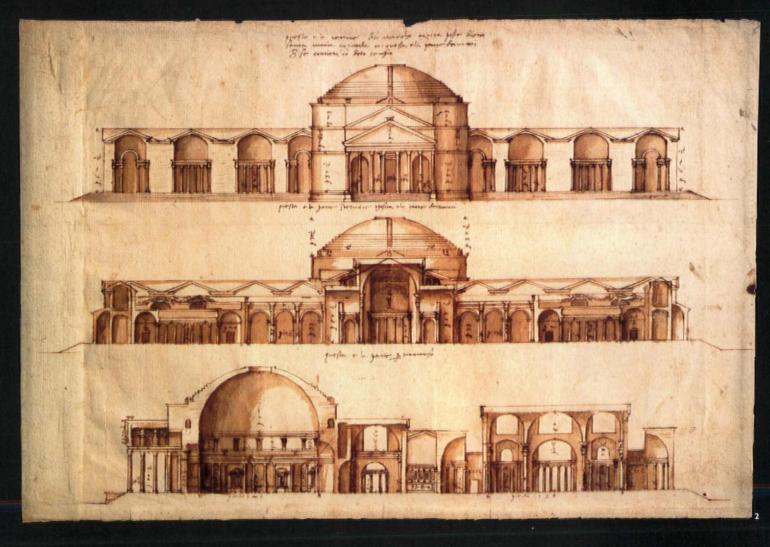
ERIC PARRY

Palladio is at the Royal Academy of Arts, Piccadilly, 31 January - 13 April 2009, open daily, www.royalacademy.org.uk



Model of the Church of the Redentore, Venice, 1972. Lime and beechwood with bisque details, 152 x 241 x 87cm. Centro Internazionale di Studi di Architettura Andrea Palladio, Vicenza. Photograph: Alberto Carolo. Andrea Palladio, Baths of Agrippa, sections and elevations. Pen, ink and wash, 28.7 x 42cm. RIBA Library Drawings and Archives Collection.

NEXT YEAR, IN HONOUR OF THE QUINCENTENARY OF PALLADIO'S BIRTH, LONDON'S ROYAL ACADEMY OF ARTS WILL PRESENT THE FIRST UK EXHIBITION DEVOTED TO THE RENAISSANCE MASTER IN OVER 30 YEARS. ERIC PARRY'S EXHIBITION DESIGN REFLECTS BOTH THE INTIMACY AND THE IMMEDIACY OF PALLADIO'S EXQUISITE DRAWINGS AND MODELS.



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